Counsels to Woman
IN
Health And Disease

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A PHYSICIAN'S

COUNSELS TO WOMAN,

IN

HEALTH AND DISEASE.

BY

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PREFACE.

THE most eminent physicians both here and in England have united in deploring the ignorance which produces the vast amount of disease and suffering among women. All agree that information is needed, but few come forward to give it. I have endeavored in this work to supply the want, in the same manner, as in my "Counsels to Man" I pointed out to him the weak parts of his nature, and provided him with resources to fortify them.

It may be asserted that there are already works of this character in the market, sufficiently full and explicit. I feel confident that even a superficial examination will prove that none of them embrace the subject as completely as this which I now present. Not confining myself to mere

matters of physiology and hygiene, as is too commonly the case, I have given especial attention to the real kernel of the subject—*Disease*, its prevention, its detection, its causes, its *cure*. Strangely enough, in some works professing to instruct woman in the care of her health, this is wholly omitted; in others it is wrapt in such ambiguity of technical phrase, or else described in such coarse and vulgar terms, as to be useless and repulsive.

Seeing the faults committed by others, I have endeavored to avoid them; and dare to flatter myself with the belief that I here offer a work to the women of America, open to none of these objections, and which, if they once peruse, they will not willingly be without.

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PART I.

What Makes Woman.

MADAME NECKER-SAUSSURE has said, "When one wishes to write upon woman, he should dip his pen in the colors of the rainbow, and throw over the written lines the dust of the butterfly's wings." We have no ink of brilliant hue at our disposal. The subject is worthy of the most gorgeous imagery; but our purpose is to record the facts of science in language which strives to be clear.

Woman is woman not merely because of her special feminine attributes, which concur in the great work of the perpetuation of the species. She is distinguished from man by her whole being, by her intellectual and moral as well as by her physical qualities.

We shall proceed to answer in detail the question, What makes woman?

Her Form.

This is characteristic even at a very early age. A certain gracefulness of outline is everywhere observable. The bones are lighter and smaller than in the opposite sex. The collar-bone is longer and less curved. The lower limbs are set farther apart, from which results a peculiarity of gait. The hips are broader, so as to give a greater space to that band of bone which incloses the organs destined for maternity. These anatomical differences are shadowed forth even in early girlhood; they become more marked as the age of puberty draws nigh; and they are fully established at maturity.

The muscular system is also less developed in the girl than in the boy. Before any special exercise can create a difference, we find that with her the muscles are weaker, and not so prominent in outline.

They are emblematic of the more peaceful and quiet life she is destined to lead. They are moulded for the gentler exercises of the domestic circle—for grace, rather than strength of movement.

This slighter development of the bones and muscles, and the absence of prominences, give to the form that roundness of contour which is one of the distinguishing features of female beauty. The curved lines are more numerous than the straight, and the general surface is undulating, in contrast with masculine angularity.

Her skin is more delicate, and has greater brilliancy and whiteness, than that of the other sex. Her hair also differs from his. It has greater length, and is preserved for a longer time, but is less generally diffused over the body.

Her Height and Weight.

The differences in height and weight between the two sexes all through life are remarkable. This is always observed when

the comparison is made between those of similar age, race, vigor, and general health.

During her whole life, the woman has less height and weight than the man. This difference, very perceptible at all ages, is particularly marked about the age of twelve.

At birth, the boy is on the average about half an inch longer than the girl, and weighs about two-thirds of a pound more. Adult men in the United States measure, on the average, five feet eight inches, and weigh one hundred and forty-five pounds; adult women average five feet two and a half inches, and weigh one hundred and twenty-five pounds. The disproportion in weight is greatest between the ages of twelve and forty. From forty to fifty, the two sexes approach each other more nearly in weight.

Her Strength.

At the outset, the little girl's strength is inferior to that of the boy of the same age. This difference increases after puberty. The comparison between the muscular

powers of the two sexes has, after careful investigation, been represented by the figures 15 (for the boy before puberty) and 10 (for the girl before puberty); and by 18 (for the adult man) and 10 (for the adult woman).

Her Pulse and Respiration.

The female pulse is quicker, other things being equal, than the male. This difference is found to exist even in the fœtuses before birth, and furnishes a means, as we shall see later, of distinguishing the sex of the child in advance. At birth, however, and for a brief period after, the pulse of the boy is a beat or two the quicker.

The manner in which the respiration is performed constitutes a notable and important difference between the sexes. While he breathes mainly with the muscles of the abdomen, she breathes mainly with those of the upper portion of the chest. This peculiarity on her part furnishes a means for the expression of passion, which tragediennes are not apt to neglect. It

also enables her respiration to continue uninterrupted by the occurrence of pregnancy. This latter consideration shows how the woman is modelled and prepared in advance for the performance of that maternal duty which is the supreme end of her physical being.

Her Temperament.

That agreeable French writer and physician, Roussel, has not hesitated to record the sanguine temperament, "the one which unites health and beauty in the highest degree of perfection to which human nature can attain," as the temperament particularly belonging to woman. It cannot be said, however, that there is a *feminine* temperament, as distinguished from the *masculine* temperament. We find in each of the sexes nearly the same liability to the predominance of the nervous, lymphatic, bilious, or sanguine temperament.

Her Disposition.

It has been truthfully, though perhaps mischievously, said, that woman is more childlike than man. She preserves longer than he the physical, mental, and moral traits of childhood. In this we find the source of that grace which is one of her most charming and essential attributes. We may trace this happy resemblance in a thousand ways: it is seen in the soft, undecided lines of her form, which suggest the contour, without designating it; in the sound of her voice, in which predominates a caressing grace of tone; in the smooth skin, which contrasts with the exuberance of the hair; in the prominence of the nervous functions; in that exquisite sensibility, always quick of response; in that force of emotion which is the glory and at the same time the martyrdom of woman; in the abundance of words and gestures; in the equal readiness of tears and laughter; in the mobility of the ideas and feelings; and in the delicacy of the health. Although

the woman resembles more nearly the little girl than the man the little boy, she, as well as he, is complete in her own organization; there has been no arrest of development.

Her Statistics of Life.

The figures of the statisticians also point to the existence of a mysterious, natural difference between the male and the female life. There are more boys born than girls. Social arithmetic places the proportion at about one hundred and six to one hundred. That is to say, in about every sixteen births there is one more boy than girl. What is the reason of this law? It is necessary, in order to balance the greater ravages made by death in the ranks of men, exposed as they are to more causes of accident and disease, while the woman is protected in the seclusion of her domestic life. She suffers more, it is true; but her health is better cared for, and she is less liable to die. If it were not for this law of excess in male births, the necessary relation be-

tween the sexes would be disturbed by the greater male mortality.

This greater male mortality is even perceptible in uterine life. More male fœtuses are still-born than female. And the mortality continues to be much more considerable among boys than girls, especially during the first five years of infancy. The force which resists death seems, therefore, to be more feeble in the male sex.

Her Longevity.

The probable duration of life is considerably greater with the girl than the boy. At birth, the boy's expectation of life is thirty-three years and eight months; the girl's, thirty-seven years and two months. At five years of age, the boy's expectation of life is forty-two years and ten months; the girl's, forty-five years and two months.

The average duration of life is also greater with woman than with man. Thus, in France, where the records are kept with the utmost exactness, under governmental

surveillance, we find that between 1854 and 1859 the average life for both sexes was 35 years and 6 months: that of the women was 37 years and 2 months; that of the men, 33 years and 8 months only. There are, at any given moment, in the population more women who are sexagenarians, octogenarians, and centenarians than there are men of the same age. It is said that during one year (1868, we believe) France possessed only one male centenarian, while she had sixteen of the other sex.

Her Health and Peculiar Diseases.

Is the girl or the woman more apt to be sick than the boy or the man? The question has been much discussed whether the female constitution is not radically weak. Women are not constantly sick, as some have asserted. They are more susceptible to certain forms of illness, and they have a host of maladies peculiar to themselves, but the fact that they are not the serious invalids they have been assumed to be is

shown by their greater longevity, as we have just seen. Still, there seems to be a contradiction here. How happens it that we find in the female constitution such general apparent feebleness, and a group of diseases unknown to the other sex, united with a longer life, a more energetic resistance to death? This has been accounted for in two ways. First, we have the greater protection thrown around the life and health of the woman by social customs. The perils of wine and of war she is not exposed to. The dangers by sea and by land to the traveller are less hers than his. The life of greater passion and anxiety which men lead induces exhaustive reactions. These greater trials and exposures of manhood are partly balanced by the perils of maternity which she incurs. The second preservative influence which accounts for her greater vitality is the possession of a more highly developed and more acute nervous system. Here we find another instance of nature's compensations. This nervous excitability, the cause of so

many pains, is an instrument of defence against many ills.

One of the characteristics of female maladies is their liability to change their nature and seat. They do not fix themselves nor entrench themselves so strongly behind any particular organ. They seem to be much more serious than they really are.

Women are less subject to certain fatal diseases than men. Among these are apoplexy, aneurism, typhoid fever, and rheumatism. On the other hand, the various convulsive and other nervous affections are more apt to attack her than the other sex. The same is true of scrofulous and tubercular affections, with their long series of after-effects.

Conclusions on the Distinction of the Sexes.

Thus we have traced out, from the cradle, fundamental differences between the two sexes in regard to their structure, their physiology, their predispositions to disease.

We have found that the little girl as well as the mother is impregnated with feminity. She is not born, she does not live, she dies not, she is not sick, she feels not, thinks not, like her brother. She has her own anatomy, physiology, and habits of thought and feeling. She has also her own social destination, entirely distinct from that of the other sex.

The next feature in her physiological life which demands our attention is that of *puberty*. It is necessary that every mother who desires to direct aright the physical education of her daughters shall know something of the perils and sanitary rules of this great epoch in their lives.

PUBERTY.

We enter now upon the consideration of the preludes to maternity. It has been well said that the first steps the young girl takes in the painful way which conducts her to the joys of the mother are decisive for her future health.

The approach to womanhood is a graaual one. Step by step the little girl separates herself more and more widely, in mind and body, from the boy, her companion. One by one many of the common points of resemblance between them disappear. Nature is preparing her for the destiny which awaits her. The hour finally comes when the maternal sense is awaked, and, hand in hand with a transformation of the moral nature, it brings to light a new physical function.

The establishment of the monthly change,

the expression of womanhood, is not, therefore, a sudden one. It is announced from afar. An attentive eye can discern it in the distance.

The Signs of Puberty.

These are seen earliest in the outlines of the figure. The breasts, in particular, enlarge, but a deposit of fat also takes place elsewhere under the skin, at first in the groins and then over the whole body.

At the same time, if everything goes on well, the life-forces seem to arouse themselves to increased activity and brilliancy; they brighten the complexion, animate the look, enrich the voice, and change the whole expression of the face. The tastes, the thoughts, and the disposition are modified. All these alterations take place in the midst of a disturbance of the nervous system more or less perceptible, and place the health in a condition of peculiar sensibility to any morbid influence which may attack it from without or from within the system.

It is well, therefore, for hygienic reasons, that every mother should be acquainted with the time, at least proximately, at which this physical change we call puberty may be expected.

When it comes.

The *climate* here has its influence, hastening it when warm, retarding it when cold. *Race* is even more powerful than climate, and often counterbalances or overrules its influence. Jewesses and creoles mature early. So also do colored girls. *City life* has an effect, for it is well known that city girls are more precocious than their country neighbors. The *temperament* is another element to be considered. Blondes are later than brunettes; the slight, dark-haired, and nervous girl develops sooner than her fat, fair, and phlegmatic sister. The *growth*, that is to say, the greater or less rapidity of corporeal development, is felt here, as might be expected. Those destined to become tall are later than those who will be short. The influence of the *social*

condition, of *inheritance*, and of *education* are all noticeable, and hasten or retard puberty.

With us, the average age at which female puberty establishes itself is about fourteen and a half years. A departure of more than six months from this average is exceptional, and may indicate some derangement of the health. Although it need not excite alarm, it should always call forth a watchful attention, and, if prolonged, medical supervision.

Carefully prepared statistics show that the average age at which the first monthly sickness appears in South Asia is twelve years, ten months; in Florence, Italy, fourteen years, six months; in Marseilles, France, thirteen years, seven months; in Paris, fourteen years, eleven months; in London, fourteen years, nine months; in Vienna, fifteen years, eight months; in Berlin, sixteen years, one month; in Copenhagen, sixteen years, nine months.

Instances are known to the medical profession of the establishment of this function

late in life, and, on the other hand, of its very early appearance. Indeed, some have begun to be unwell in infancy, and even within the first month after birth. Such anomalies are of course very rare, and have no bearing upon the general laws of health. As a rule, a premature or retarded puberty may justly excite solicitude.

Music has, in some cases, an undoubted influence in precipitating the change of puberty. The musical education of young girls ought, then, to be conducted with prudence. Although this effect of music has perhaps been exaggerated by some writers, it is not to be disregarded. Dr. Raciborski, the best living authority upon this subject, says, "In the case of the young daughters of nervous, hysterical mothers, the family physician, upon being consulted on the direction to be given to the education, will act prudently to counsel the parents not to push too far their musical training." Particularly should this reserve be heeded if the girl be subject to nervous disorders, or be too profoundly im-

pressed by the harmonies of sound. A careful mother, thus forewarned and watchful of the influence of music over her daughter, ought to be able to detect whether it be harmless or injurious.

Other causes tend to bring about a premature change in those exposed to them. They are found particularly in the cities, and account in a great measure for the difference observed between the city and country maiden. We refer especially to late hours, to the fatigues of dancing-parties and theatrical amusements, to the excitements of novel-reading and of social pleasures, which are certain to stimulate unduly those of immature years.

We have said that the period of puberty is fraught with danger to the health; we will now speak more minutely of

Its Perils.

The gradual changes in the physical and mental organization, which have just engaged our attention, finally culminate in

a loss of blood, of which the womb is the seat. This flooding, slight at first, and perhaps irregular, soon becomes more abundant, and, during a certain number of years, its regularity is necessary to, and is, so to speak, a sign of, the health.

This monthly change, being an expression of health, ought to establish itself without any constitutional disturbance. Unfortunately, like the dentition of earlier life, it becomes the pretext for a thousand ills. It is a critical period of her existence, this which transforms the girl into a woman. Many life-long miseries are the result of a want of assiduous care and intelligent direction at this time.

There are two classes of disorders to which the girl is now exposed, which demand our attention. One arises mainly from alterations in the blood, and results in what is known as *green-sickness;* the other has its origin exclusively in the nervous system, and causes those numerous *nerve troubles*, the source of so much suffering, which darken many a woman's life—al-

though they fail to call forth the sympathy habitually accorded to other affections.

We do not intend to point out here the treatment in detail of these maladies. We wish now merely to say that the mother should be able to recognize these foes to her daughter's health, in order the better to repel their attacks and have repaired in time the injuries they inflict.

Green-Sickness.

This was long looked upon as merely an affection of the blood. It is now known that although the impoverishment of this fluid is the most prominent feature of the disorder, it has its origin in a faulty condition of the nervous system. So that the division we have made of the affections which threaten puberty, into those of the blood and those of the nerves, is more apparent than real. It is the nervous system, primarily, which is out of equilibrium.

Chlorosis, the term, meaning *greenness*, by which physicians designate this green-sick-

ness, is not a malady which declares itself boldly at the outset. It loves rather to steal unobserved upon the system. A feeling of languor, a loss of appetite, a dislike for society, and a causeless depression of spirits, are the *first signs* of its presence. The complexion loses its color, and takes a waxen hue; the face is puffed; the softened muscles tremble on the least motion; blue or lilac veins spread themselves under the now transparent skin; the heart palpitates; the breathing is short; the appetite is gone; the digestion is imperfect; all the organs of the body, watered by a debased life-current, act slowly and with difficulty; the nervous organization alone is excited; it is irritable, and the temper peevish; shooting pains torment the body and limbs; and, finally, the material sign of that change which nature has made the pretext for these disturbances ceases to show itself.

Have we not painted the picture in colors that all may recognize? These symptoms are not, every one, present in all cases, and the affection may even mask itself under an

apparent richness of the blood. The appearance of constant lassitude, of palpitation of the heart, and, particularly, of shortness of the breath on exertion, together with irregularity or scantiness of the monthly flow, ought to call the attention of the mother to the advisability of seeking medical advice. She may obtain valuable information as to the *condition of the blood*, by examining it in those parts where it circulates in very superficial vessels. Thus, the inner surface of the lower eyelid is rich in minute vessels, which readily indicate any impoverishment of the blood. So also pallor of the gums is an excellent indication of a poor condition of this fluid. The bright pink tint under the nails affords another very useful guide; if the surface here be pale, and if, at the same time, the blood returns slowly to the vessels after being repelled by strong pressure upon the nail, then there is positive poverty of the circulating fluid, which demands the prompt application of proper remedies.

Why have we dwelt at some length upon

these early signs of disease? Because, we repeat, it is well to recognize green-sickness at its very origin, in order to institute treatment at the most favorable time. Not only so, but early recognization is also important because there are two forms of this affection. One is the ordinary, transitory, curable form. The other, which is a consequence of the first, is chronic and obstinate. A young girl who suffers for several years with this malady, at the most critical epoch of her life, will retain forever after a tendency to a return of similar attacks.

Hysteria.

This affection is not entirely monopolized by the female sex. It is met with, though comparatively rarely, among men. The woman is said to be more than twenty times liable to its attack. One-half of the cases occur in girls about the age of puberty, *i.e.*, between twelve and eighteen. Younger girls are not exempt from it, however, especially in certain conditions of life and

education. One-fourth of the cases occur, with them, under the age of twelve. These latter are nearly all the daughters of hysterical mothers, for the effect of inheritance is very noticeable in this affection. It is relatively less frequent in the country, and more common in the larger cities than in the smaller, for obvious reasons.

This disease of the nerves is, fortunately, quite amenable to treatment. It is often mistaken for other complaints, for it assumes a thousand forms, and thus may give rise to unnecessary alarm. If allowed long to continue its course unchecked, it may result in loss of mental power.

In constitutions which are not sound, the inherited predispositions to disease are most apt to come to light about the age of fourteen or fifteen. Consumption, before only suspected, now fairly unmasks its dread features. White swelling and spinal disease are now also prone to declare themselves. Of what high moment, therefore, is it that the sanitary laws of this epoch of puberty should be known and observed! More is to

be hoped from the benign influence of hygiene of preventing the manifestations of disease, than from the skill of the physician or the shop of the apothecary in attempting their cure.

The Hygiene of Puberty.

To prevent the impoverishment of the blood, and to maintain the order and harmony of the nervous functions, are the two prominent objects which, in the hygiene of puberty, should ever be kept in view. The nutrition of the body ought to be carefully looked after, and a most zealous watchfulness brought to bear upon the suppression of any hereditary predispositions to disease, known or suspected to be lurking in the system.

It must ever be borne in mind that the girl is passing through a great crisis in her physical career. She may not be sick, but she is very liable to become so. In the case of a delicate girl, it is well, on the first announcement of the expected change, to

institute a kind of life in which her nervous sensibilities shall be as much as possible in repose, and her muscles as much as possible in motion. Life in the pure air of the country is desirable, if it can be procured. Voyages, in particular, are serviceable. They present a triple advantage. They benefit by the change of air, by the stimulus they give to the appetite, and by the diversions of the mind, which draw the thoughts away from self-contemplation. They also accelerate the appearance of the monthly change when it is delayed, as so frequently happens when there is delicacy of the constitution. Such a girl should not be permitted to study too much nor too long at a time; she should not be exposed to the excitements of society, nor be too closely occupied with the cultivation of her musical talents.

The food, above all, should be carefully looked after, now that the blood is so ready to become poor and watery. A diet which contains the most nourishment in the smallest bulk, is, without doubt, the most

desirable. The girl should not be forced, however, to eat upon any theoretical principle of regimen. The taste is a better guide in matters of the table than abstract views upon sustenance; a piece of dry bread which is desired is more profitable to nutrition than a beefsteak against which the appetite revolts. Of course, full play should not be allowed to the depraved tastes which crave satisfaction. A girl should not be allowed to dine entirely upon pickles and green apples, however strongly she may wish to do so. What is wanted here is a *liberty of choice wisely regulated*, in view of the fact that while one is nourished by that which is digested, one is also nourished by that which is *desired*.

Food should be plainly cooked and abundant. Many a girl suffers at this age from the want of nourishment. She does not eat enough. She does not eat what is proper. Fat meat, and, above all, *milk*, should enter largely into her bill of fare. A prominent writer upon consumption accords to the free use of milk, as an article of

daily food at this time, a most active agency in the prevention of consumption. We desire to urge, clearly and emphatically, upon parents, the importance of this advice. This fluid, so rich in nutritive elements, and so easy of digestion, is of incalculable value.

The measures above mentioned for enriching the blood are also of service in maintaining that order and harmony of the nervous functions which we have declared to be the second great object in the sanitary regulation of puberty. It has been said by one of the closest observers who ever adorned the medical profession, the great English physician, Sydenham, that the *blood is the moderator of the nerves.* Many a neuralgic pain is merely the cry of the nerve for healthy blood. When, therefore, we speak of the means best calculated to preserve or restore the normal condition of the blood, we at the same time designate those which will preserve or restore the health of the nervous system.

Beside these two general directions which

should be given to the hygiene of puberty, we would call attention to a special precaution. Among the maladies to which we have alluded, which lie, in some mysterious manner, hidden in the system up to this time, and then suddenly leap forth into being, is *consumption*. It has been asserted that this disease, more common with women than men, as statistics show, owes this peculiarity to the greater facility which the disturbance of the health at the period of puberty offers to its development in the girl. The seeds of the disease are sown equally at birth between the two sexes, but germinate and bear their deadly fruit more generally, on the account just mentioned, in the female than in the male organism. And the danger is all the greater with her, because its earliest signs are mistaken for merely a derangement of the menstrual function. When, in particular, the disease has found a lodgement in the family, the closest scrutiny upon the health should be exercised, and no time lost, upon the first

appearance of danger, in seeking competent medical advice.

In regard to *clothing*, the girl, at this period, should be dressed with prudence, so as to support, without inconvenience, slight changes of temperature. For this reason, either silk or wool should always be worn, and, preferably, next the skin, in order to excite by its contact the circulation of the surface and absorb the perspiration.

From the days of the Greeks and Romans of ancient times until now, doctors have agreed in decrying the employment of the *corset*. What has been the result? Its use has become general. The corset proper was said to have been introduced into France by Catherine de Médicis, whence it has found its way throughout the whole female world. The Greek and Roman women wore an instrument which fulfilled the office of a corset. It would be in vain, therefore, for us, with any hope of being heard, to raise our voice against its use. May we not hope for some heedful attention when we confine ourselves to its *abuse?*

In early womanhood, above all, the corset should be well made, and never exercise more than a very light compression. *It is never to be regarded as an instrument to improve the form.* It is this foolish, this hurtful abuse of the corset which we emphatically denounce, in the name both of health and of beauty. It directly prejudices the former, first, by injuring the digestion, and consequently the nutrition of the body at this time, when, of all others, the digestive organs are intended to render the greatest and most durable service; secondly, by interfering with the free play of the lungs, and thus inviting disease there, particularly if there be a tendency to consumption; thirdly, by exerting a downward pressure upon the abdomen, thus giving rise to womb-disease, and a host of sufferings connected with child-bearing. The marring effects of the tight-fitting corset upon beauty are no less marked than upon the health. It arrests the development of the breasts, and renders forever impossible a perfect bust; it deforms the shoulders, by

pressing upwards the shoulder-blades behind and the collar-bone in front; it makes the complexion muddy and drives the color from the lips and cheeks, by preventing the proper aeration of the blood in the lungs. The close-fitting corset has much to answer for. It has destroyed, and we fear will continue to destroy, the health and beauty of many a maiden. In view of these well-known facts, it seems incredible that there should be mothers who not only countenance, but *command*, tight-lacing in their daughters. Yet such is the case. We copy the following letter from the columns of a recent number of an influential Ladies' Magazine of large circulation:—

"About a fortnight ago, I informed my daughter that it was my wish that she should not unlace her corsets on retiring to rest. To my great regret, I found that she had been reading some of the nonsensical tirades against tight-lacing, in some of the papers, and has become impressed with the idea that being made to wear properly laced corsets was equivalent to being condemned to

death by slow torture. On my telling her, the other night, that I was dissatisfied with her figure, and of my resolve that she should adopt the measures I mentioned, she declared she could never endure it, and, I am sorry to say, showed a very rebellious spirit. However, she wore them the first night, after much protestation; but on the second, I found she had taken them off after I had retired to rest. I then took the precaution of fastening the lace in a knot at the top of the lace-holes, and, for a night or two, this had the desired effect; but she was not long before she cut the stay lace. I have punished her somewhat severely for her disobedience, but she declares she will brave any punishment rather than submit to the discipline of the corset. She is now fourteen, has a very strong constitution, and is in perfect health. She does not complain that the tight-lacing makes her feel ill—did she do so, her appearance would contradict her. Her only objection is, that the corsets are uncomfortable, and prevent her from romping about as she has been accustomed to do. My

object in writing now is to ask if any of your readers will kindly give me their advice in this matter, as I cannot allow my daughter to gain the mastery. Perhaps some lady or principal of a school would kindly inform me what method she has adopted in similar cases, and what is the best way of preventing a girl from destroying her laces or stays when out of sight of her mother or governess. If any one will do so, she will confer a great favor."

Comment upon such a letter is unnecessary. We merely call attention again to the fact that it is extracted from a recent number of a ladies' fashion journal. Who will deliver our American women from the heavy yoke of fashion, and break the chains which force them to sacrifice health and all the noble attributes of real personal beauty to the behests of false notions and perverted tastes? We believe that the fatal follies of fashion have their origin in ignorance, the wide-spread ignorance which prevails, both of the laws of health and of comeliness. We consider that there is no more impera-

tive duty than that which devolves upon *popular hygiene* to point out the inter-relation of health and beauty, and to indicate those means by which they may be cultivated and preserved. In the face of the letter just quoted, who will gainsay us?

THE HIDDEN SIN.

The improvement in woman's health and comfort, which it is our hope to accomplish by means of this work, would be incompletely gained, did we omit referring to one cause of ill-health, which we would gladly pass in silence. But the recent investigations of men eminent in the study of that special branch of medical science which occupies itself with woman and her diseases, seem to show beyond doubt that in many instances a long course of nervous debility, with its host of attendant symptoms, can be traced to a practice which was commenced in youth, in ignorance of its baneful effects. We refer to artificial excitement of the sexual feelings.

Most frequently what prompts to this is not sensuality, but some local irritation. It

is not uncommon for young girls to suffer with severe itching of the parts, sometimes by a slight disease of the skin, frequently by the presence of worms in the lower bowels, and occasionally by an irregular growth of the hair. Whatever the cause may be, it leads to a scratching or rubbing of the part, by which the sensations of pleasure are awakened and, to some extent, satisfied; consequently what at first was resorted to for the purpose of allaying a local irritation, soon becomes attractive by the sensations it evokes, and in proportion to these are its danger and injury.

The results of such frequent unnatural excitement are soon visible in a general disturbance of the system, a failure of the digestive powers, a change in the mental character, and sometimes troublesome local disease.

Strange as it may seem at first sight, this habit does not lead a young woman into profligacy. On the contrary, it seems to create a repugnance to and a want of sensation in the natural function. The

nerves of the part no longer respond to the proper stimulus, but require for their excitation the accustomed unnatural means. We have known women given to this practice who confessed that in marriage they were astonished to find no pleasure; and their husbands were amazed at their coldness.

Were this all, we should not have thought it worth while to have trenched upon the theme. But the more serious dangers to the general nutrition, and consequently to health and life, which follow also, render it of first importance that mothers and teachers who have the control and government of young girls should be aware of the need of watching narrowly their charges, and of taking prompt measures to heal or remove any cause of local irritation. When the practice is known, it is unwise to frighten or shame the girl in order to break it. Rather remove the provocation to excitement, and by frequent cold bathing, increased exercise, moderate statements of the dangers connected with such habits, and a judicious enlightenment of her mind, seek

to instil the force of will necessary to break it up. Thus we may expect to retain her confidence, not wound her feelings, and lead her to self-reformation.

THE MONTHLY CHANGE.

What is the meaning of this new function, which establishes itself at puberty, and which holds ever after so prominent a place in the female organism? Why should this monthly flow of blood make its appearance for the first time at the age when the woman begins to be capable of maternity, and cease when the faculty of reproduction is extinct?

From the earliest times, and in all countries, physiologists have observed a relation between this monthly recurring sickness and generative power in woman. They propounded many theories to account for this relation; they wrote many books to support their own and to refute opposing doctrines. It would be contrary to the object of this work, which is to give a brief exposition of some of the most important principles of hygiene, to enter into a history

of these ancient theories, even if we had the space to spare. One, however, deserves mention, as being curious in itself, and as having been urged by that learned physician and most pleasing writer, Dr. Roussel. He asserts that the monthly flow is not natural to woman; it is an acquired function, and continued by habit. He declares it does not exist in the savage or primitive condition of humanity, but is a salutary provision of nature to protect the woman, by this periodical blood-letting, against the excesses of the table and the other indulgences of civilization!

It has only been within the last quarter of a century that the diligent efforts of anatomists and physiologists have determined the signification of this singular phenomenon. Science now enables us to fully explain.

Its Nature.

In every mature woman there occurs, once a month, the passage of an *ovum* (the Latin word for egg) from the ovaries to the

womb. The ovaries are two almond-shaped organs, one on either side of the womb, to which each of them is connected by a small tube about four inches long. The congestion, the engorgement of the parts with blood during the monthly passage of the *ovum*, causes a rupture of the minute vessels, and the monthly flow. This *ovum* is the germ of the man, for the human being, like all others, starts from an egg. Ordinarily, it is lost in the menstrual flow. If, however, it be impregnated and fixed in the womb, the woman is said to have *conceived.*

We are not writing a treatise upon anatomy, nor even upon physiology. No good can result from a vague knowledge upon these points. It can make no woman a better wife or mother. It cannot assist her to preserve her own health or that of her daughter. Anatomical descriptions of the characters we refer to are only useful to the physician and surgeon, who need to thoroughly know the human frame. They are only proper in medical text-books. They should be rigidly excluded, as useless

and hurtful, from all popular treatises. We make this digression to explain why we have here, and elsewhere in this book, said so much and no more upon structure and physiology. We only introduce what is necessary to enable the reader to follow us in our familiar converse upon hygiene and treatment. No one need be an anatomist to become a sanitarian. It is not a knowledge of anatomy that American wives and mothers require to fit them for maternity and the physical education of their children. But they do require more knowledge than, we are sure, they possess, of the hygiene of puberty, of pregnancy, and of early infancy, and of the prevention and treatment of the complaints peculiar to themselves. And it is this *useful* knowledge (is there any more so?) which it is our sole purpose, accurately and concisely, to record.

Some information in regard to the cause and nature of the monthly illness seemed to be a necessary introduction to an intelligent perusal of its sanitary laws. We

have therefore briefly stated thus much of its physiology, and shall next consider

Its Duration and Amount.

The length of time during which the discharge lasts varies with the temperament, age, habit, and race. The same is true of the amount of blood lost. No narrow limits of health can be defined. Every woman is a law unto herself. If she varies widely, at any time, from that which has been her habit, something is wrong. With American women, the average time may be said be to somewhat over four days, the average amount four or five ounces. Some are sick only two days, others as long as six. These are, however, ordinarily, the extreme limits of health.

Alterations in the general health influence both the duration and the amount of the monthly illness. Impoverishment of the blood is frequently associated with a too copious discharge, which in turn reacts to render the blood still more watery. The

most common cause of excessive menstruation, in those who have had children, is some inflammation of the womb. Before marriage, on the contrary, the cause is generally to be found in some general disorder in the economy. Although such increased flows are rarely dangerous in themselves, they may become so if they are many times repeated; for they then induce that chlorosis of which we spoke in the previous chapter, and may bring in their train many other maladies. It is particularly to be remarked, that the first monthly sickness after confinement, or after a miscarriage, is liable to be prolonged and copious. Every mother should bear this in mind, with the view to precautionary measures. No long journey is then, on this account, proper until after the first period is passed.

Its Hygiene.

The monthly sickness is very liable to derangement, in time, duration, amount, and pain. This is particularly true in early

womanhood, before the function has obtained from the economy an acknowledgment, as it were, of its rights. Constant watchfulness and sedulous care are therefore necessary at the outset, for if irregularities be allowed to fix themselves, they will, very likely, remain during the whole duration of the maternal life of the woman. If, on the contrary, regularity be early established, it is not afterward readily lost.

The causes which may derange this function are various. One, the bad condition of the blood, resulting from a defective hygiene, has been referred to. Any debasement of the health, either from the gradual development of some constitutional disease, or in consequence of the breaking down of the life forces by an acute affection or depressing passion, will injuriously affect the monthly change. So also, while unwell, will strong mental emotion, or the exposure of a part of the body to the action of cold, as when the hands or feet are immersed in cold water.

It is not uncommon—two instances have

recently occurred in our own practice—for young girls, ignorant of the danger they run, to seek to check the flow of blood, which is inconvenient or repugnant to them, as soon as it appears. Fortunately, they frequently fail in these attempts; in other instances the consequences are prolonged and serious. Mothers should bear in mind the possibility of this practice, and exercise proper surveillance.

In those cases in which the menses have appeared with entire regularity from the time of their first eruption, nothing more than ordinary prudence will be required to maintain the health. On the first appearance of a tendency to irregularity, precautionary measures should at once be taken. Confinement to a room with a uniform temperature, and repose on a lounge, or even in the bed, are necessary. At the same time, mild means may be employed, to provoke the discharge if it be delayed, to augment it if it be deficient, or to palliate the pain if it be accompanied by undue suffering. For these purposes, the remedies

familiar in almost every household are appropriate, such as hot mustard foot-baths, warm, stimulating, aromatic drinks, etc. They, however, should soon be abandoned, and medical counsel sought, if they have not the desired effect.

In regard to the use of baths during the menstrual flow, there is much prejudice. Without doubt, a cold bath, say below 77° Fahrenheit, will arrest the discharge. Without doubt, also, a hot bath, say above 95° Fahrenheit, will increase it. But a lukewarm bath, say from 86° to 91° Fahrenheit, will not affect it. It has been recommended by the highest authority on this subject, by M. Raciborski, that those who are nervous, and with whom the flow comes spasmodically, and readily stops altogether under the influence of any slight emotion, should employ lukewarm baths (86° to 91° Fahrenheit) during their periods. They will find in them a valuable resource for regulating the function. He has never seen the least injury to result from their use. The fear of provoking an attack of

flooding, or of checking the flow, is therefore chimerical.

There are two changes in their mode of life to which young girls are exposed, which frequently derange their health. One is the removal to a boarding-school. It is well known that the pupils of these institutions suffer more from irregularity than those who remain in the family circle. The often unwelcome change of scene, the new and agitating surroundings, the feeling of home-sickness, the absence of that confidence which leads the daughter to inform the mother of the least disorder, which she carefully hides from a stranger, and the closer mental application, are among the reasons which may explain this fact.

The second condition is a removal from the country to the city. Life in the great cities is not favorable to female health at any age. The vitiation of the air accounts for this in part, but there is another cause, partly moral and partly physical. It is the constant noise, which shakes the nervous system, disturbs the sleep, and engenders a

habit of nervous irritability in some women. These effects are, of course, most marked upon one accustomed to a country life, and, above all, upon one who has just passed the age of puberty.

NUBILITY.

It is necessary here to draw a broad distinction between *nubility* and *puberty*. To believe that a woman is properly marriageable on the day that the first expressive sign of womanhood manifests itself, is to commit a grave physiological error. It is to confound a preliminary, an imperfect function, with one that has arrived at its full development. True maturity, which is known under the name of nubility, differs from puberty. The power should exist some time before it is exercised. The individual should be fully developed herself before assuming the duties of reproduction. The signs of puberty do not imply an aptitude for marriage; the possibility of conception does not prove the presence of all the conditions desirable for maternity. We have considered, in the previous chapters, the nature and period of puberty; we

will now study the nature and period of nubility. First, as to

Its Period.

The attainment of the full growth, indicated by the stationary height, and the entire development of the bony system, occurs about the age of eighteen years, with the woman. *She should never marry earlier than this.* Hygiene teaches that she had better not marry so soon. It names twenty as the youngest age at which the maid ought to become a bride. An earlier union than this is against the interests of the offspring, who are apt to lack vigor and vitality, and it is injurious to the health of the young wife.

We shall more fully treat of the proper age of the wife, and the relative age of the couple, under the head of

The Laws of Marriage.

Marriage has been honored in all times and by all people, and its physical and

moral laws earnestly studied. Celibates have always been badly treated. With the Romans, for a long time, they were not admitted as witnesses. The Spartans had a festival specially designed for the castigation of the bachelors by the wives of their fellow-citizens, in a public place. In Germany, the unmarried men were unable to will their property, which, after death, belonged, by law, to the State. The Chinese, Hindoos, and Persians married their children who were still-born, in order that their souls might not be obliged to wander on the earth in expiation of their celibacy.

As marriage is certainly one of the most grave, if not the gravest act in life, its laws deserve study. This is the more important, as, in modern times, great individual freedom of choice is very properly allowed. Ancient legislators were so impressed with the dangers to the public health of badly assorted unions, that they passed numerous edicts on the subject. These were frequently ill-advised, and necessarily exer-

cised an unsupportable tyranny over the individual and family, in this, the most sacred act of life. Modern legislators, more wisely, have accorded greater freedom. Although they have not given absolute liberty, they have confined themselves to legislation in regard to age and relationship. Hence, as we have said, the necessity for a wide diffusion of a correct knowledge of the laws of hygiene in relation to the physical conditions of marriage and of child-birth. The effects of ignorance are as lamentable as, unfortunately, they are frequent.

The Age of Marriage.

The age at which marriage is contracted has such an evident influence on the health of the offspring, that the laws of all States always have, and still continue, in the interests of public hygiene and morality, to lay down certain legal limits, outside of which it is forbidden. It belongs to the science of medicine, however, to inform the

families of the land of the serious inconveniences which would result from availing themselves of the full latitude accorded to them by the laws of their country.

This subject has been one which has long occupied the attention of political economists and of moralists, as well as of physicians and statesmen. The first class have considered the question in its relation to population and subsistence; the second, in its relation to morals; the last two, in its relation to hygiene and the constitution and vigor of the people. Although we are properly occupied only with sanitary considerations, it may not be without interest or instruction to briefly state the views of prominent economists and moralists on the age at which one ought to marry.

Many economists, following the teachings of Malthus, have sought to postpone as long as possible the epoch of marriage, with both sexes. This famous writer on political economy asserted that statistics show that the population doubles itself about once in every twenty-five years, in-

creasing, in this manner, in a geometrical proportion represented by the figures 1, 2, 4, 8, 16, etc.; whilst the means of subsistence, even by the aid of every possible improvement in the agricultural arts, can only increase, in the same space of time, in an arithmetical proportion represented by the figures 1, 2, 3, 4, 5, etc. According to this calculation, a hundred acres of the most productive land, which, at the present time, suffices for the support of one hundred persons, would be capable of producing, three hundred years from now, only sufficient subsistence for twelve hundred persons; while, in the same space of time, the progeny of these one hundred persons would reach four hundred and nine thousand six hundred. A sad perspective of inevitable famine! For this reason a postponement of the age of marriage was one of the means suggested by writers of the school of Malthus to avoid the misery resulting from a too rapid growth of population.

On the contrary, many writers on moral

science have earnestly advocated the betrothal of every young woman and man immediately upon attaining the age of puberty, and marriage so soon afterwards as was practicable—the sooner, they say, the better. This practice, they assert, would improve the public morals, by inspiring sentiments of virtuous attachment.

The civil laws of all countries have, as we have said, fixed the lowest limit of age. This has always been, for the woman, the average age at which puberty announces itself. This age we already know; the figures are given for various countries, in the previous chapter on puberty.

Let us listen now to the voice of hygiene, the only safe *mentor* in this matter. American, English, and French medical writers all agree that the best age for the bride, the safest for herself and for her children, is between the years of twenty and twenty-five. This is the interval in the life of the woman in which nature clearly destines her to become a wife.

The Dangers of Early Matrimony.

Precocious nuptials, on either side, are injurious to the children; but a too youthful mother is more apt to have puny, ill-developed children than a too youthful father, for the reason that her part in the formation of the new being is more important and more prolonged than his. Precocity in marriage is also more dangerous for the woman than the man, not only because of the perils of child-birth, which are greater, other things being equal, in proportion as her development is incomplete, but also because of the obstacle opposed to the perfection of her own organism by the necessity of furnishing materials for the growth of her offspring. It is desirable that these facts should be known, for women are more apt to marry too early than men.

Another consequence of a premature union is the liability to a miscarriage. The fruit of the first conception is lost. Many a young wife has sacrificed her first-born through ignorance of this pitiless law. Let

every mother who sanctions the marriage of her daughter of sixteen or seventeen, know that this tribute of violated law, which recalls the bloody sacrifices of the ancients, will be exacted, and let her weigh well the risks and responsibility she incurs.

We shall content ourselves with naming only three other sad results of early matrimony. One is the danger that wives under twenty will be barren. This is probably in consequence of the habit of miscarriage which is set up. The second is the opposite danger of excessive child-bearing, for statistics indicate clearly that this is one of the causes of over-production. The third is the greater mortality among the children of such premature unions.

Need we add any other considerations to these physical laws we have mentioned? If so, we may say, in favor of postponing the period of marriage until after the twentieth birthday, that more time is thus given the young girl to acquire experience and knowledge of the world, without which she

will rarely be happy in her choice of a husband.

"We marry our daughters so young," says Madame de Rémusat, "that they have not had, really, time to look about them. If received customs could be suddenly broken, and nature consulted, I believe that the age of twenty-five years would be that which she would prescribe for the marriage of our maidens; but our habits are opposed to such an abrupt transition. At least, the bride should have passed her twentieth year, and even then have had nothing spared to hasten the maturity of her reason."

The Dangers of Late Matrimony.

Modern legislation has fixed the minimum limit of age for matrimony, but has refrained from framing any laws against late marriages. This prudence has been aptly characterized as a homage rendered to the moral character of marriage, and to the liberty which should be accorded to

those who, from other motives than the formation of a family, seek in a late union the consolations of a life in common, and the advantages of reciprocal assistance.

We have merely to say, in this connection, that with those who marry after thirty the perils which attend maternity are greater than with their happier sisters, the brides of between twenty and twenty-five.

We shall recur to this subject when we come to speak of *discordant* marriages, *i. e.*, of unions in which there is a great difference in the ages of husband and wife, which will be in the chapter devoted to "The Preliminaries of Marriage."

THE SINGLE LIFE.

She who aims at something better than the destiny of the wife and mother, which the critical Iago defined to be

"To suckle fools and chronicle small beer,"

may believe that in a single life she will find greater scope for ability, a more untrammelled sphere of action, and a larger world wherein to move. She may also think that she will escape the misery of a loveless union, or an unharmonious consort; that she will not be exposed to the agonies of the travailing woman, nor the sleepless nights of the anxious mother; that she will never know the bitterness of the widow's weeds, nor the anguish of her who mourns for her children and will not be comforted because they are not.

This and more may be true; we do not gainsay it. But we do say, that a boun-

teous Providence is ever rich in recompenses, and gives most to those who suffer most. Is it not even a law of business life that those who risk little, gain little; those who venture nothing, win nothing? So in woman's life, she who allows her fears of matronly responsibilities to overcome the natural promptings of her heart, may find too late that with the husks she has also thrown away the richest grain.

Nor from the point of view of mere bodily comfort does she always gain. It is something to have a care-taker and protector, even if he be not just what we would have him. The trials of domestic life are received, as well as given; if she has children, and rears them as she should, their strength will support her when age has weakened her own powers. The physical discomfort she meets as wife and mother is balanced by physical pleasure, and the sense of duty fulfilled.

Then the single woman has her own trials to meet, and often has to meet them alone. She finds this loneliness oppressive;

she sees enjoyments in which she has no share; as she grows in years, she misses the attentions which were the free-will offerings to youth and beauty, and, naturally, she feels little love for the world which loves her so little. Hence that asperity which proverbially characterizes the spinster, and hence the unpopularity with which she is so frequently regarded by her young relatives.

Speaking medically, she has tendencies to certain diseases, especially mental ones, to a greater extent than her married sisters. She is more exposed to disturbances of the digestive functions, and is hardly less liable to direct displacements of the womb.

Marriage, it must be remembered, is, in many instances, a directly sanitary measure. It remedies complaints of long standing, and often restores debilitated health. It is, as a distinguished London physician remarks, a tonic, and one of the very best tonics. It generally proves itself to be such both to the mental and physical constitution.

So, in spite of the seeming escape from a variety of ills, which the single woman makes, it is a fallacious escape, and, as often as otherwise, leads her into a mode of life really more depressing and unsalutary than that which she aims to avoid.

THE CHANGE OF LIFE.

After a certain number of years, the woman is no longer capable of becoming a mother. The monthly sign of her maternal powers disappears, and with it the faculty of reproduction. This period of her life is known under various names. Physicians call it the *ménopause;* French writers speak of it as the *critical age* (*âge critique*), the *climacteric age* (*âge climatérique*), and the *age of decline* (*âge de retour*); but the ordinary term employed in our country to designate it is *the change of life.*

We shall occupy ourselves first with the question of the age at which this change takes place, and then with its signs, its effects upon the health, and the cares which it requires.

The Age of Decline.

The age at which the reproductive period of woman's life ends, varies, as we found was the case with its beginning, under the influence of temperament, mode of life, and particularly of climate. Still, there is a certain uniformity in the length of time which separates the first from the last physical sign of womanhood. The majority of women are destined for reproduction during about thirty years of their lives. This seems to be true of all climates, so far as reliable statistics have been collected. In those countries in which the age of puberty comes early, the age of decline comes early also; while in those in which a late puberty is the rule, the women retain, as a compensation of nature, their maternal powers later in life.

In our own country, the age of forty-five or six may be said to be the average one for the cessation of the menstrual life. Not uncommonly, however, it occurs five years earlier than this; less frequently, five

years later. Instances are not unusual of its postponement to the sixtieth year; very exceptionally it has been noticed as early as the thirtieth or even the twenty-eighth year.

Its Signs.

Sometimes the first announcement of the change of life surprises the woman in the midst of such vigorous health, that she may well entertain doubts as to the cause of the suppression she observes, and should exercise the greatest circumspection. It would be well for her, under such circumstances, to seek the counsel of the family physician. A commencing pregnancy or an accidental interruption is often mistaken for the natural cessation. Hence the importance of always avoiding any disturbing remedies, and of waiting patiently until time shall confirm or set aside all hopes.

In general, the signs of the natural suppression of the monthly sickness are a gradual diminution in the hemorrhage, and the appearance of irregularity in the periods

and in the amount. Sometimes two, three, six, or even more months pass without any show; then a flooding, of greater or less severity, occurs. This may happen, again and again, over a space of several years. It is rare that the monthly periods continue regular to the last, and then quietly disappear forever. Often the disturbance is so great as to give rise to the fear that there is some disease of the womb. Happily, with proper attention, this usually readily subsides, and the general health suffers no permanent injury.

There are other physical signs which accompany this change, beside the cessation of the monthly illness. One is an increase in size and weight. This tendency to corpulency first shows itself by an accumulation of fat at the lower part of the back of the neck. Two distinct prominences ordinarily appear here, directly over the lower bones of the neck, known to anatomists as the two lower cervical vertebræ. In speaking of the age of puberty, we mentioned the deposit of fat which then

took place, commencing first in the loins. Hence we find that both the periods of the birth and of the extinction of the reproductive powers are marked by an inclination to grow stout, more decided, however, at the latter period than the former.

The breasts, which increased in volume on the advent of puberty, now, their work being done, dwindle away. The limbs also lose that roundness of outline which they acquired in early womanhood. The woman becomes more like the man, often even to the extent of taking a beard. The abdomen enlarges, and gives rise, perhaps, to the suspicion of pregnancy. The skin loses its softness and suppleness, wrinkles appear in the face and neck. The complexion fades to a pale yellow hue, which encroaches upon and finally extinguishes the rose-tints of youth.

Its Diseases.

These physiological signs, so to speak, of this change, often go hand in hand with

a numerous host of morbid symptoms. The age of decline, like the age of puberty, has its peculiar dangers to the health. These should be known, that they may be guarded against. Although many of them are of a petty character, they may be, and often are, the cause of the greatest misery.

It need not surprise us that a function which during thirty years has held in dependence, as it were, the rest of the economy, does not lose its very existence without a struggle. If it were nothing more than the cessation of an old and accustomed hemorrhage, it would be apt to give rise, in many constitutions and temperaments, to a predisposition to various maladies. It is because of the liability, at this epoch, to the invasion of disease, that the term, the *critical age*, has been employed to distinguish it.

We are glad, however, to say that the profound dread of this period which exists in the minds of many women is unfounded. Their fears greatly exaggerate any real danger. Nature does not place such a

heavy burden upon their sex as they imagine; she does not cruelly afflict the wife and mother at the close of a career of fecundity so full of sacrifices and generous devotion. A speedy death is not the fate she reserves for those who can no longer obey her law "to increase and multiply." On the contrary, we find that more men than women die between the ages of forty and fifty, and that, this critical period once over, the woman's expectation of long life is greater than that of the man of the same age.

Still, we repeat, there are dangers to the health which group themselves around this period in every woman's life. There are also certain precautions which may be taken to avert them and to increase the chance of long life.

There are some women to whom these remarks do not apply. With them the cessation of the menstrual function seems to be the signal for an increase of vigor, a renewal of life, and a disembarrassment from many inconveniences. The vital activity,

which had animated the organs of reproduction, of which nature has no longer any need, is transferred to the organs of digestion and assimilation. The circulation becomes more energetic, and a more abundant flow of blood penetrates the vessels of the skin, communicating a ruddy hue, which simulates the freshness of youth. The breasts attain a new development, and the woman regains her pristine comeliness, in this, the Indian summer of her life. It is particularly among those whom a too abundant monthly flow has kept in a condition of habitual languor, that we find, at the change of life, an agreeable embonpoint and the appearance of a second youth. Some women only enjoy perfect health after this epoch, and have really more vigor and freshness at fifty than at thirty.

This happy class are in the minority. The majority of womankind find this period of their lives a more or less stormy one; the important changes in the economy which take place, accomplishing themselves in

the midst of disturbances of the nervous system and of other parts.

The body having been accustomed to lose, periodically, a certain quantity of blood, often continues to feel the need of the same loss, after the cessation of the menstrual flow. From this it results that the blood being refused its habitual outlet, seeks to escape in various other directions. Hence the occurrence of rushes of blood to the head, of palpitations of the heart, bleedings from the nose, spittings of blood, skin diseases, diarrhœa, etc., of which the physician sees so many examples at this critical age. All these troubles are more apt to be grave in those who are full-blooded and of the sanguine temperament.

Gout is one of the affections to which women are more subject after the cessation of the menses. This has long been known. Hippocrates, indeed, asserted that women were not subject to this affection at all until after the change of life. Seneca reproached the women of his time for having, by their excesses, falsified this aphorism of the

venerable sage of Cos. The fact is, that although women are more liable to gouty and rheumatic affections after the change of life, they are not altogether exempt from them before this period.

Various nervous disorders are prone to declare themselves at this time. As might be presumed, they occur most frequently in women of the fashionable world, who have passed their youth in the midst of excitement and emotion, and who have violated in a thousand ways the laws of their nature. They are encountered, however, though much less frequently, among those who have led lives of moderation and regularity. Nearly all women, indeed, who reach the climacteric age, pass through a state of different degrees of nervousness. A distinguished physician has accounted for the frequency of these troubles in the following manner:—

"For certain women of society to descend from the pedestal on which beauty and birth have placed them, is impossible. The idea of growing old irritates them, and the void which then surrounds those who

have not learned to find happiness in the family circle, is the cause of a continual fretfulness, which manifests itself in some disorders of the nervous system."

This view is not a correct one. Though, doubtless, many see with regret the advance of age, which they know is about to oppose forever an insurmountable barrier between them and many of the pleasures of life in which they found the most delight, yet this natural chagrin does not account for all their nervous troubles. The majority who suffer from troubles of this kind, present signs of deterioration of the blood, amounting even, in some cases, to green-sickness, *chlorosis*, a disease not exclusively confined to puberty. There is feebleness and depression of the pulse, pallor of the complexion, and many other indications which point evidently to a morbid condition set up by the change of life, and show clearly that the nervous disturbances are not the result of vexation because of the consciousness of advancing years. These sufferings are not, therefore, to be lightly

treated, either by physicians or friends; they are not the effects of mere fancy, but have their root in an impoverishment of the blood.

It is a remarkable fact that the disorders and inconveniences which were experienced at puberty, the *beginning* of the childbearing period of life, are now repeated at the menopause, the *end* of this period. Those who have assumed their womanly attributes without pain or disease, part with them without suffering. On the contrary, those who have suffered most at puberty, have the most to endure at the change of life.

Its Hygiene.

Although, as we have asserted, the fears commonly entertained of the risks which environ this epoch are exaggerated, it does not follow that the change of life should be looked forward to with indifference, and the wise directions of hygiene despised.

On the contrary, we insist that every woman who hopes for a healthy old age

ought to commence her prudent cares as early as the fortieth year, or sooner. She should reform her manner of life, and her nourishment, if such reform be required. She should study with attention her temperament, her habits, and her peculiar dispositions. She should recall the memory of the maladies to which she has been subject during the course of her life, above all, those at the age of puberty, in order to guard against their recurrence. She should cease to endeavor to appear young, when she is no longer so, and withdraw from the excitements and fatigues of the gay world, even in the midst of her legitimate successes, to enter upon that more tranquil era of her existence now at hand. She will thus escape many pains and troubles, and will not fail to find in the future unsuspected well-springs of the purest pleasure. She should particularly avoid, at this time, all excesses of the table, all stimulating drinks, such as wine, coffee, and liquors, excepting under medical advice, all derangements of the perspiration,

and exposure to cold, particularly to cold and moisture. She should take active exercise every day, in the open air, especially if she be of a lymphatic temperament and predisposed to undue corpulency. Horseback exercise, and dancing, are not proper.

Nothing is more hurtful than idleness. Most American mothers can find at hand enough to do, for their own families and friends, to absorb all their energies. There are also works of charity in abundance, which demand not merely money, but active exertion and constant occupation of the mind. In the gentle joys of benevolence will be found the best remedies for mental distress and gloomy depression. Idleness of the mind and heart are even more dangerous at this time than want of bodily activity, above all in persons of nervous temperament and with feeble and irritable digestive organs. Let every woman, therefore, bear in mind, as the most valuable precept on health we can give her, her paramount need of activity at this epoch, and

spare not her heart, hand, or head, in good works. Gratitude and affection will not be her only rewards, for peace of mind and health of body will crown her efforts.

THE PRELIMINARIES OF MARRIAGE.

It is said of Pythagoras, the great philosopher of antiquity, that he expressed his astonishment at the little regard paid, in his time, to the health of the offspring, in considering the preliminaries of marriage. He contrasted this conduct with the care exercised by stock-growers, who sought to unite only those animals which would best secure the beauty and vigor of their flocks. This reproach of Pythagoras is as applicable to-day as when it was uttered twenty-three centuries ago. But we are a human society, and not a herd of animals. No arbitrary legislation should be enforced in this matter, as was urged by him and many since his time. All that can be done, all that it is desirable to do, is to point out the dangers of improper unions, and to dissi-

pate the prevailing ignorance on the sanitary conditions of marriage. With this object in view, we shall discuss the proper relative ages of the husband and wife, the question of relationship, and the dangers to the offspring of certain disease, on either side or both.

The Difference in Age.

We have spoken of the age of the bride, and shown that nature clearly indicates the period between the twentieth and twenty-fifth years as the best for her marriage. What should be the age of her husband? Certainly not under twenty-three; and as full growth and physical development are not attained by a man before the twenty-fifth year, this latter is tne preferable minimum age. The decade from twenty-five to thirty-five is that in which he is the best fitted for marriage. If the man be delicate, or with a predisposition to disease, the risk to the offspring is increased if he contract marriage after the age of thirty-five.

The difference in years between husband and wife ought not, perhaps, be less than five nor more than ten, the husband being, of course, the senior. This relationship in years secures the greatest conjugal happiness for the longest time, and is in the best interests of the children. As woman becomes sooner old than man, the wife should never be the senior of her husband. The effect of the relative age of the couple upon the sex of their children, we will consider in the second part of this work. It suffices now to state that, with seniority on the part of the husband, there is much more apt to be a majority of boys in the family.

The Union of May and December.

The marriage of old women with young men is comparatively rare. Occasionally, from pecuniary motives, such a union is formed. It is, of course, sterile, for a woman, after the change of life, cannot conceive. Aside from this, it has no hygienic

bearings, whatever may be said as to the moral questions involved.

Old men with young wives are more numerous. Hygiene opposes itself to these unions, which violate the design of nature. They are particularly dangerous to the husband; they are unfavorable to the health and longevity of the children, who seem to inherit the senility of their father, and die early. These discordant marriages have, in short, nothing to recommend them; they are positively hurtful to those who contract them, and to their descendants; they are in violation of the laws of nature and morality.

Who Should Not Marry.

We have just spoken of the physiological impropriety of discordant marriages. Youth should not, therefore, marry with age. The presence of disease, or of a predisposition to disease, in either or both contracting parties, ought to excite the liveliest solicitude as to the well-being of the offspring. This subject, the inheritance of

disease, we treat at length farther on. Our reader will find, on a later page, those diseases and predispositions which forbid marriage. It only remains for us, in this connection, to answer the question,

Should the Marriage of Cousins be Forbidden?

The legislatures of Kentucky and New Hampshire have answered this question in the affirmative. They have not only said that cousins *should* not marry, but have ordained that they *shall* not. This action has been characterized by the ablest of French writers on hygiene as "*une intrépidité tout Américaine.*" It is certainly a very peremptory disposition of a very grave question.

We have no hesitation in affirming that the fear of marrying even a first cousin, if *there be no decided hereditary taint in the family*, is a groundless one. Most French, English, and American physicians of the greatest experience and highest authority

on this subject, hold this view. The following editorial words from a recent number of one of the most reliable of all medical journals, the London Lancet, express the result of scientific inquiry.

"The marriage of cousins, providing both are healthy, has no tendency to produce disease in the offspring. If, however, the cousins inherit the disease, or the proclivity to it, of their common ancestor, their children will have a strong tendency to that disease, which might be fostered or suppressed by circumstances. There can be no question that cousins descended from an insane or highly consumptive grandparent should not intermarry; but we cannot see any reason for supposing that either insanity or consumption would result from the intermarriage of healthy cousins."

Dr. Napheys, in his "Physical Life of Woman," asserts, and supports his opinion by facts, that, *if the family be entirely healthy*, there is no danger of physical or mental degradation in the offspring of cousins. He says:—

"Many a married couple have been rendered miserable by the information that they had unwittingly violated one of nature's most positive laws. Though their children may be numerous and blooming, they live in constant dread of some terrible outbreak of disease. Many a young and loving couple have sadly severed an engagement, which would have been a prelude to a happy marriage, when they were informed of these disastrous results.

"For all such we have a word of consolation. We speak it authoritatively, and not without a full knowledge of the responsibility we assume.

"The fear of marrying a cousin, even a first cousin, is entirely groundless, provided there is no decided hereditary taint in the family. And when such hereditary taint does exist, the danger is not greater than in marrying into any other family where it is also found. On the contrary, a German author has urged the propriety of such unions, where the family has traits of men-

tal or physical excellence, as a means of preserving and developing them."

In the view we have taken we are also fully supported by Dr. Samuel H. Dickson, the venerable Professor of Practice of Medicine in the Jefferson Medical College of Philadelphia. This distinguished physician says: "Several writers on both sides of the Atlantic—on this side, Professor Bemiss—ascribe much of tubercular and scrofulous disease to the marrying of relatives, physical incest, as it is called. I think the truth can be put in a nutshell. I suggest it to you: there is a great deal of exaggeration on this subject, yet there is much reason for the belief that the intermarriage of relatives is dangerous to the offspring, not on account of their mere consanguinity, but because they are likely to have the same predisposition to scrofula, if that predisposition exist in that family. * * * Therefore we come to the conclusion that it is not an essential result of marriage of consanguinity that there should be scrofulous or other degeneracy. Why,

then, does it often happen that marriages of consanguinity are followed by physical or mental degeneracy? Because if there is any predisposition to disease in a family, the female will have it as well as the male; if then, under such circumstances, two cousins of similar scrofulous predisposition marry each other, it is certain the offspring of these cousins will be more scrofulous than their parents; but it is not so by the law of consanguinity. For suppose two persons scrofulously predisposed, of the most distant and diverse race, marry, the result will be just the same without the slightest consanguinity. It is due to the predisposition, and not to the blood. It is for this reason more apt to be encountered among married relatives; but it is not essential, it is not a law. If two cousins are healthy, and see fit to marry, there is as much reason to believe that their children would be healthy as if they were not connected by cousinship or consanguinity at all. If their temperament be opposite, it will be as favorable a conjunction as if they

were not connected. If we could manage these things as the stock-breeder does with the lower animals, undoubtedly we could improve the human breed to a great degree."

PART II.

Woman a Wife.

Animal and Spiritual Love.

Our nature is like a tissue cunningly woven with threads of gold and flax. Regard it in one light, and we see naught but the coarsest dull fibre of the plant; in another, and our eyes are dazzled by the glitter and gleam of the noble metal. So our passions and impulses now touch upon the infinite and the eternal world beyond, and anon seem of the earth earthy, "compact of thankless clay."

Nowhere is this more conspicuous than in the study of that passion which governs us more than all others combined, and decides upon our lives with the arbitrary will of a Fate—we mean the passion of Love.

Based, perhaps, on these blind instincts, which nature has implanted in all organic creatures, to multiply and bring forth after their kind, it finds its summit and highest expressions in words and deeds which are recorded on the page of history as the sublimest known to mortal ken. What wondrous examples of martyrs, what self-sacrifice, what deliberate contempt of riches, reputation, life itself, do these over-true tales of love contain, with which the literature of the past is crowded!

Narrow and paltry is the intellect which in these narratives can see nothing but the outcropping and fruit of a carnal desire. To such we would say, in the words of Thomas Carlyle, "What sort of a man is that who cannot enjoy the delicate aroma of the rose without forever thinking of the dung which enriches its roots?"

The love which is known by the sexes finds its fruition not in ephemeral sensations common to men and the brutes, but in the intercommunion of soul with soul, in the unity of thoughts, cares, pleasures, and

strivings, in the sympathy which soothes and the confidence which strengthens, in the faith that casts out fear and the hopes which are never selfish, and in the mutual exchange of thoughts, which increase as they progress. As the poet says, comparing such reciprocity to the sounds of nature—

> "Oh love, *they* die in your rich sky,
> They faint on hill or field or river;
> *Our* echoes roll from soul to soul,
> And grow forever and forever."

If such language seems to the inexperienced as meaningless phrase-making, we can but say that there are those, and we hope they are many, who will see in what we have just written a true though feeble portraiture of that higher range of feeling to which true affection leads the happily married.

Confident in this higher definition of passion, we have the less hesitation in analyzing it boldly, for if we do find that it is intimately associated with traits of our merely earthy nature, and with feelings

which are shared by inferior races, yet we bear in mind that out of this animal love rises a mighty and a pure passion, which is to this other what the trim stalk and delicate flower are to the unsightly tuber.

It is this distinction that we would urge to be constantly borne in mind, and to be always considered, when estimating the character and value of investigations like that in which we are now engaged.

The First Experiences.

The momentous epoch when the maiden becomes a wife, is for her a critical hour, and often influences largely her future health. How many diseases peculiar to her sex date their inception or origin from the first conjugal approaches, only physicians are aware; and among physicians, those most fully appreciate the effects of such a change who have most attentively studied the subject.

That marriage is a bloody rite—that, so far as the female is concerned, its consum-

mation is painful and distressing—is true as a rule; but it is well to know that it is not always so. Whenever the pain is very severe or permanent, then there must be some condition contrary to nature or to health. And if, as sometimes happens, it is not possible for proper relations to be established, then there is probably some unusual and unnatural conformation on the part of the female, which the surgeon alone can comprehend and remedy. Such cases do occur now and then, and, if misunderstood or not attended to, lead to estrangement and suffering.

The Indulgence of Desire.

The experienced physician sees in his practice not a few affections which owe their origin and continuance to excess in the marital relation. Such excesses are often the result of ignorance of natural laws.

It is impossible to lay down any absolute rules on this subject. The wife who un-

necessarily restricts her husband's customary privileges runs the risk of domestic infelicity. Probably, when in health, two or three indulgences a week may be looked upon as within the proper bounds. In cases in which there is great debility, or during convalescence from an illness, any indulgence is hurtful. The same is true of cases in which there is actual pain, and when the act is found to be a depressing and prostrating instead of a restoring one.

The Sleeping Apartment.

From time to time it has been urged by various writers that a separation should occur at night between husband and wife. Some have advocated different chambers; others, two beds in the same room. If both parties be in good health, and the bed-chamber be sufficiently ample, the interests of hygiene demand no such separation.

There are circumstances when the same bed or even the same room should not be occupied during the long hours of the night

by husband and wife. One of these is, a great discrepancy in the ages of the married pair. A young wife should not habitually sleep by the side of a husband far advanced in years. Neither should a healthful wife share the bed of a consumptive husband.

Is consumption contagious? This is a vexed question in medicine at the present time. But there have been so many cases, fully authenticated by the most experienced physicians, in which this disease has made its appearance after marriage, and been, apparently, traceable to contagion, that we feel justified in uttering a word of caution. It is not unfrequently noticed that women in good health, and free from family predisposition, sicken and die from consumption a few years after union with men suffering from a well-developed form of this disease. Experiments which have been made with the inoculation of tubercle, by M. Villemin, of Paris, would seem to show that tuberculous disease may be transferred in this manner from one animal to another. Our words of caution are intended to apply

to cases of the actual presence of the disease, and not to those where merely a predisposition exists. In such instances, there is, of course, no immediate danger of contagion, and a marital union with a healthy partner may be unattended with evil results.

It is of the utmost importance that the common bedchamber be large, and well ventilated. It has been shown that the air space required by a healthy person is at least twelve hundred cubic feet, and that this air should be completely renewed, by means of ventilation, every hour. Therefore, this double room should measure twenty-five hundred cubic feet; that is to say, if it be twelve feet high it should be about fifteen feet square.

The Bed and its Coverings.

The bed ought to be placed in a dry chamber, and be exposed to the sun at midday. It should not be too soft nor warm. For this reason, feather-beds are hurtful. They increase the perspiration, and so en-

feeble the system. Heavy coverlets are objectionable on the same account, and because they interfere with the movements of respiration.

Horsehair, and sponge, both make excellent beds. Sleeping upon the latter has some repute as a remedy against sterility.

WHAT PARENTS TRANSMIT TO THEIR OFFSPRING.

All living beings transmit to their descendants, besides the type of their species, the physical and moral peculiarities which characterize them. This phenomenon is known as *inheritance*. The study of the precise laws in virtue of which this transmission of the qualities of the parents to the children takes place, has been diligently pursued of late years. The subject is a most interesting one. In its important relations to marriage, it deserves our most attentive consideration. We shall therefore devote some pages to the laws of that terrible yet mysterious force which so profoundly impresses our nature at the very outset of existence.

Inheritance assumes various forms, to each of which a distinctive name has been

applied. First we have *direct* inheritance, in which the qualities of the parents are transmitted to the children. Secondly, *collateral* inheritance, in which the disease, or the predisposition to it, proceeds from collateral branches of the family. Thirdly, there is what is known as *atavism*, in which one generation escapes, the defects passing directly from the grandparents. Fourthly, inheritance *by influence*, is that force by which the mother transmits the impressions she has received from her husband in a first marriage to her children in a second union.

Not only are *physical* peculiarities, such as form, structure, the healthful and the diseased conditions of the body, capable of inheritance, but also *moral* qualities, *i. e.*, the thoughts, affections, talents, virtues, and vices.

If the force of inheritance were uninterrupted in its operation, all children would exactly resemble their parents, and the generations at present upon the globe be the prototypes of their predecessors. This we all know is not the case. Many influ-

ences are constantly at war with this force. Among these may be mentioned the neutralizing effects of the different dispositions in the father and mother, the power of habit, the modifications due to climate, etc.

The Physical Peculiarities we Inherit.

The general appearance and particular features of the face and figure are, as everybody knows, the subjects of inheritance. Thus, beauty, and the lack of it, are transmissible. The resemblance of children to their parents may be seen either in the whole contour of the body, or only in some particular parts. Sometimes in this resemblance can clearly be traced the combined traits of both parents; in other instances, only those of one of them. The infant may, at different periods of its life, appear to look more like the one and then the other parent. Special exaggerations or deformities of feature are frequently preserved in families for a long time. The hereditary

squint of the family of Montmorency, and the well-known aquiline nose of the Bourbons, are in illustration.

Children may resemble, generally, or in some one prominent respect, not only their parents, but also, in accordance with the varieties of inheritance we have mentioned, a grandparent or an ancestor far removed, an uncle or aunt, or the deceased first husband of their mother. This last form of inheritance is one difficult to comprehend. The influence of the father on the future children of the mother by another husband, is well attested by an abundance of facts. It was in a measure known to the ancients, who had the adage: *Filium ex adultera excusare matrem a culpa.* The influence of the first father is recognized in the animal kingdom. A blood-mare which has once borne colts to a common stallion, will ever afterwards be unfitted to procreate her own stock with a stallion of her own race. The female organism remains true to the impress it has received in the first conjugal union.

In considering the physical peculiarities we inherit, the question naturally suggests itself—

Can we have Beautiful Children at Will?

There is an old art known as *callipædia*. A few centuries ago it had its professors and its pupils. It had for its object the preservation of symmetry and the suppression of deformity. This it proposed to accomplish by an ingenious crossing in marriage of personal traits capable of modifying or enhancing each other. While we look upon marriage as too serious a compact for the carrying out of such speculations to the extent to which they were formerly pushed, there is little doubt of the success which attended those attempts.

It is easy to show by examples how physical exaggerations or defects may be modified. Thus it is very possible to get rid, in a single generation, by an intelligent selection in marriage, of that excessive tallness or shortness which the members of

some families justly regard as a personal cross. In like manner may be remedied the family tendency to undue development of the whole or of parts of the body, which is the cause of so much mental distress. The shade of hair politely termed auburn is regarded at the present time with much disfavor. It is well known that the offspring of parents, the one of whom is very dark, the other very light, have frequently hair of this color.

The ancient Greeks, who valued highly personal beauty, spared no pains to secure it for their posterity. They filled their houses and places of public resort with beautiful statues, not only to gratify their own love of the beautiful, but in the hope of thus moulding, through the influence of the maternal mind, their offspring.

There can be no doubt of the disastrous effects upon both the mind and the body of the child, of a condition of disquietude, anxiety, or excessive emotion in the mother during pregnancy. It is a matter of record, that during the French Revolution

a very large number of children were born deformed, idiotic, deaf, dumb, and blind, in consequence of the fearful mental sufferings of their mothers. Let those about to become mothers, therefore, remove themselves from disturbing influences, and cultivate pleasant thoughts and peaceful emotions.

But, in fact, physical beauty is only the reflection of physical health. In order to have beautiful children, we must have them vigorous, and free from constitutional taint. Health is the substance of which beauty is the sign. Symmetry of form and harmony of feature result from the perfect performance of all the functions which sustain life. In this sense, the art of callipædia is one which should be cultivated by every family. Those who weep because of their ugliness, can trace the cause of their sufferings to the diseases and vices of their ancestors; for vice, as well as disease, stamps itself upon the physiognomy by inheritance. The human race can be made more beautiful only by being made more healthful and

more virtuous. When one is as healthful as is possible, one is as beautiful as is possible.

The diffusion in every family of a knowledge of the laws of health will go far towards attaining this end. Our principal object in treating, in this book, of the physical conditions of marriage, has been to guard the interests of unborn children. It is just here, before life is begun, that hygiene is most powerful. After birth, and particularly after maturity, its powers are limited. We would therefore impress upon those who are, and those who are about to become mothers, the importance of our present topic, namely, of an attentive regard for all that will, by *preventing* disease, secure the health, and thus the personal comeliness, of the little ones to whom they impart life.

The Muscular and Vital Powers Capable of Transmission.

That *muscular activity and energy* can be transmitted, is readily proven. The English race-horses, whose genealogy is always carefully looked into, show the credit accorded to the influence of inheritance upon the muscular system. The athletes of antiquity procreated their powers, and were found only in certain families.

It is more particularly in regard to the *senses* that we are interested, as bearing upon the health of the family. Delicacy of touch, extreme sensitiveness to cold, acuteness or obtuseness of smell and taste, are all met with as hereditary peculiarities. These are of trifling moment as compared with hereditary delicacy of sight, blindness, and deafness, which certainly merit serious attention on the part of those concerned.

The *constitution* is transmissible to the offspring. Two radically feeble constitutions united in marriage can scarcely fail to produce puny and short-lived infants.

Those who, by forming such a union, sacrifice the health of their families to their desires or their fortunes, assume a grave responsibility.

It is advisable, so far as possible, to unite opposite *temperaments* in marriage. The union, for instance, of the sanguine with the lymphatic or nervous, will tend to the advantage of the children. The marriage of two persons of a very sanguine temperament, especially if there be a family history of disease of the heart, apoplexy, gout, etc., will be apt to result disastrously. The union of two lymphatic temperaments favors the development of scrofula; of two nervous temperaments, of disorders of the nervous system.

Longevity is evidently hereditary. As Prof. Fonssagrives has well remarked, one has only to look around him in order to assure himself that each family has, in some measure, its own longevity, and that the term of life of each of its members, accidents excepted, has a duration which is scarcely ever passed. It seems that in

these families, life, like a clock, is wound up for a certain time, which is essentially the same for each member, modified only by casualties or crossings with other families more long-lived. Vigor of constitution is not necessarily the characteristic of families in which long life is hereditary. We frequently see individuals remarkable for the strength and beauty of their organization, whose career is short. In other families, the members of which appear habitually weak, we find long life to be the rule. This contrast, which is so common, led a physician of the last century, Fournier, to write a book entitled "The Advantages of having a Feeble Constitution." The truth is, longevity is as much a matter of pure inheritance, and, to a considerable extent, as independent of other physical qualities, as is the color of the hair. It is prudent to bear this fact in mind in contemplating family alliances.

The Intellectual Powers Capable of Transmission.

Observation proves that intelligence is not less hereditary than the height or form of the body. Judgment, memory, imagination, and special talents in science or art, are passed down from parent to child. The father of Raphael was a painter. Joseph Vernet, his son Charles Vernet, and his grandson Horace Vernet, were celebrated for the same talent. The two brothers of Titien, and his son, were painters. The mother of Van Dyck painted flowers. Similar instances, almost without number, are to be found in the other arts and professions.

Is it possible, then, by an intelligently formed alliance, to create a genius in science or literature? Not so. Genius is an anomaly, and it is rarely inherited or transmitted by its possessor. It is of divine origin, and unbound by hereditary fetters.

The reason why men of distinguished

parts do not more generally transmit their abilities, is to be found in the unfortunate marriages they frequently contract. Thus it happened with the illustrious author of Faust, who married his cook. He had a son who resembled him physically, but partook of the intelligence of his mother. The Germans called him "The son of the servant."

This fact reminds us of

The Diverse Influence of Fathers and Mothers.

It may be briefly stated, as a general principle, that the resemblance of the child to the father is most marked in its external organization. The peculiarities of its constitution and temperament are derived more frequently from the mother. The paternal and maternal influence vary with the *sex of the child.* In the case of sons, the physical conformation of the head and upper portions of the body are ordinarily derived from the mother; in the case of daughters, from the

father. Hence in the line of descent from parents to children, intellectual qualities, depending as they do upon the nature and structure of the brain, are apt to cross from fathers to daughters, from mothers to sons. A few minutes' persual of the pages of a biographical dictionary will make evident to the curious reader the frequent transmission, by celebrated men, of their abilities to their daughters, and show also how often those men whose names the world will not willingly let die have had talented mothers.

Much might be said upon the sad inheritance of *disorders of the mind and intellect.* We will merely remark here, that there are two forms of character or disposition which, when they exist to a marked degree, are frequently the cause of mental perversions in the offspring. These are, first, what is known as *singularity* or idiosyncrasy of character, which, when excessive, may metamorphose itself, by inheritance, into insanity; and, second, great *moroseness* of disposition, which not rarely

leads to melancholia in the child, a form of monomania characterized by profound depression.

The Moral Qualities Capable of Transmission.

The fact, however startling it may appear to many, that we derive our moral as well as our physical nature in great part from our parents, is not now called in question by those whose studies and experience have thrown light upon this problem. Children can and do obtain, by hereditary transmission, the good or bad dispositions of their immediate ancestors. We find tendencies to drunkenness, to sensual excess, to theft, and to violence, the undoubted results of inheritance, and developed under circumstances precluding the possibility of bad example.

This subject comes within the domain of the moralist rather than of the physician. It is his province to indicate how, by ethical and religious culture, hereditary inclinations to evil may be arrested or eradicated.

And it is the duty of every woman, jealous of her family reputation and of the future of her children, to know and heed the practical bearings of this question.

The Diseases Capable of Transmission.

What branch of hygiene is more deserving of attention than that which treats of the nature and prevention of transmissible affections? The consequences of ignorance or neglect of medical laws in this regard, are daily seen about us, in the perpetuation of many diseases which would otherwise soon become of rare occurrence. The responsibility of the parent is here most surely a serious one, it must be acknowledged, when it is remembered that the health and happiness of the child are largely determined, before its birth, by the physical condition of one or both parents. We have, therefore, a few words to say upon the character and avoidance of hereditary disease, notwithstanding it is often alleged that precautionary rules are useless in a matter in which sentiment and affection are

so largely involved. Passion and interest are consulted, but medical science rarely, in the formation of the conjugal union. For all that, the duty of the physician in treating this subject is none the less plain. It is his task to make known the principles of sanitary science; it is too often the fate of his readers to furnish him with examples of the disastrous effects of their disregard.

It is a curious fact, in regard to the inheritance of disease, that the child often copies the successive phases of the parent's life. Persons thus in old age become very like a parent to whom in their youth they bore no resemblance. A son will grow fat or lean, lose his hair or teeth, fail in memory, or become affected with some chronic disease, at the same time as his father did before him.

A child liable to the effects of hereditary disease should be reared with care. Those measures and safeguards (which in the third part of this book we shall particularize) best calculated to protect early infancy should be rigidly regarded. Throughout

the whole period of childhood, indeed, a careful watchfulness ought to be exercised. By a sedulous regard for the laws of health, much may be done to avert the impending evil or to mitigate its effects. In after-life, that occupation ought to be chosen which experience has shown is least likely to develop the disease to which the person is predisposed.

A large proportion of the deaths which occur in early life are due mainly to some constitutional taint, the result of hereditary influence. The constitutional peculiarities principally met with are the scrofulous and the rickety. It should be borne in mind, in view of these tendencies to disease in childhood, that the one great condition which increases the danger, in all cases, is *debility*. There is little liability to the breaking out of hereditary disease in a strong and healthy child. The weak and delicate are in constant peril. This is not surprising when we recollect the extreme delicacy of the little organs, the exquisite

sensitiveness of the nervous system, and the great activity of all the physical processes.

If, then, debility is the great developer of hereditary tendencies, the answer to the question, How can we prevent the effects of inherited disease? is found in that course of action which will guard against any weakening influence; which will do nothing to lower vital power, but all that is possible to sustain it. Hence, when the child is attacked with any of the maladies of early life, care must be had that the treatment instituted is not of a depressing character. The amount of nourishment must not be lessened in such cases, for the child has need of more strength to resist the threatening evils. If proper food and needed tonics be withheld, the child will be found, after such an illness—an attack of measles or whooping-cough, for instance—weaker than it was before, and soon afterwards it will be discovered that there are tubercles in the lungs, or that the bones of the back and limbs are giving way.

ON THE VOLUNTARY PRODUCTION OF SEX.

Law, not chance, governs all the operations of nature. There is no effect without cause, and it is certainly not accident which presides over the birth of males or females. The question of the voluntary production of the sexes has been from the most remote antiquity the subject of earnest research on the part of many of the most illustrious physiologists and physicians. For, in all times, there have been some fathers who have desired, with Macbeth, to have it in their power to have only male heirs. And what mother has not wished to determine for herself the relative proportion in her family of boys to girls?

We do not propose to examine the numerous theories upon the causation of sex advanced by the ancient philosophers.

Such an examination could only have an historical interest, for modern science has exploded them all. The great Hippocrates, the father of medicine, originated a theory which survived the longest, having been revived and defended, even in the last century, by the celebrated naturalist Buffon. It is also foreign to our purpose to enumerate the modern theories which, in the rapid progress of recent discoveries in embryology, have been suggested. We shall confine ourselves to the latest and most positive utterances of science.

M. Thury, Professor in the Academy of Geneva, has devoted himself with energy and success to the elucidation of this difficult question. He instituted a series of widely extended and carefully conducted experiments upon animals, which finally enabled him to formulate the following law for the guidance of stock-raisers: "In order to obtain females, give the male at the first signs of heat; to obtain males, give him at the end of the heat."

This law is in accordance with the fact

long observed, that the first laid eggs of hens and of queen bees are female, the last male.

Many stock-growers in all parts of the world have tested Prof. Thury's theory. They all, so far as we have seen, report uniform success.

Similar success attended the trial of this method on the farms of the late Emperor of the French. In our own country we notice, in the "Medical and Surgical Reporter," and in other medical and agricultural journals, favorable reports of like experiments upon animals.

These laws on the production of sex are capable of voluntary application to the human race in accordance with the following rules:—

Marital relations within the first few days after the cessation of the menses, give birth to girls.

Those which take place later than the fifth or sixth day after the cessation of the menses, give birth to boys.

A number of regular physicians in this

country and in England have recorded, in various medical journals, the results of their observations upon these laws. One writes to the "Philadelphia Medical and Surgical Reporter" for February 8th, 1868, as follows:—

"Whenever intercourse has taken place in from two to six days after the cessation of the menses, girls have been produced; and whenever intercourse has taken place in from nine to twelve days after the cessation of the menses, boys have been produced. In every case I have ascertained not only the date at which the mother placed the conception, but also the time when the menses ceased, the date of the first and subsequent intercourse for a month or more after the cessation of the menses, etc."

Other communications from medical men, to the same effect, might be adduced. We have said enough, however, to indicate the deserved prominence which Prof. Thury's theory on the production of sex now oc-

cupies in the scientific world, and the apparent uniformity of result which has followed its application to the lower animals and to our own race.

Other Causes which Influence Sex.

There are many other influences, beside the one we have just mentioned, which have long been recognized as agents in the determination of sex. The most prominent among these are the relative ages and the comparative physical conditions of the parents. Indeed, before Prof. Thury's discovery, these were regarded as the only known causes concerned. If the truth of his theory be established, they must be looked upon only as accessory and modifying influences. We shall first consider

The Effect of the Relative Age of the Parents on the Sex of the Children.

Within the last few years this subject has been carefully investigated by a number of prominent scholars and statisticians.

M. Boudin, a member of the French Academy of Sciences, presented to that body, in 1863, a paper entitled "*De l'influence de l'âge relatif des parents sur le sexe des enfants*," containing the results of his statistical researches. He drew the following conclusions:—

1st. The male sex predominates in the offspring when the father is older than the mother.

2d. The female sex predominates, on the contrary, when the mother is older than the father.

3d. The sexes are about equalized, with a slight tendency to a predominance of the female, when father and mother are of the same age.

A German statistician, Hofacker, has come to the same conclusions, from an examination of the civil registration of marriages and births in his own country. He states, first, parents of the same age engender more daughters; secondly, when the ages of the parents differ, more daughters

are born if the mother be the older, more sons if the father be the senior.

Similar researches have been instituted in Vienna (by Gochlert) and in England (by Sadler). The figures in these different countries agree in their results.

Dr. Napheys, of Philadelphia, records, in illustration of the force of this influence of the relative ages of the parents on the sex of the child, an instance in his practice. A woman married twice, had children by both husbands. Her first husband was ten years older than herself. She had four children by him, of whom three were boys, the fourth a girl, having a twin brother. Her second husband, curiously, was ten years her junior. Both of the children she has had in this second marriage are girls.

Again, as generally the husband is older than the wife, it is probably due to this cause that there are in all countries more boys born than girls. A laborious statistical examination, including over fifty-eight millions of persons, has established the fact that for every one hundred living girls

there are brought into the world one hundred and six living boys. Yet, notwithstanding the truth of these figures as to *births*, women in all parts of the globe greatly outnumber the men. The reason of this strange fact we shall shortly explain.

Too youthful husbands have, ordinarily, more daughters than sons. In extreme age, as well as in extreme youth, fathers have more girls than boys.

The Alleged Effect of the Physical Condition of the Parents on the Sex of the Children.

Some physiologists have asserted that the sex of the child is always that of the parent having the greater vitality. They have instanced the experience of stock-growers, and also the preponderance of daughters in the families of men whose avocations draw largely upon their nervous force. Some of the recent advocates of Prof. Thury's theory have endeavored to show how this view accords with and sup-

ports his statement of the causation of sex. We have not space, however, for more than the briefest record of the doctrines on this subject, the most worthy of attention. The seasons, climate, mode of life, diet, and marital temperance, all exert an indirect, secondary influence upon the sex of the offspring.

In all countries, without exception, in all latitudes, and all climates, more males than females are born. This preponderance of male births is attested by all observers. The following table shows the exact figures upon record in regard to some of the principal countries.

Names of States.	Periods of observation.	Number of male births to every 100 female births.
France	1848–1857 . .	106.7
Belgium	1841–1855 . .	106.4
Austria	1842–1854 . .	106.3
Prussia	1826–1849 . .	105.8
Rhode Island . .	1853–1855 . .	106.4

Which Sex is the more Numerous?

The reader will be disposed to reply, in view of the preponderance of male births everywhere, which we have just mentioned, that men are necessarily redundant. The reverse is the fact. In all countries, and particularly in all cities, there are more women than men. This is, as we have said, constantly true, excepting only in territories newly settled, for of course the great majority of emigrants are males. In the population of the city of London there are one hundred and thirteen women to every one hundred men. The proportion varies, in different countries and towns, between one hundred and five and one hundred and sixteen women to every one hundred men.

How are these figures to be reconciled with the diametrically opposite birth-record in all of these countries? By the strange fact that though more male infants are born than female, fewer survive the first five years of their life. Especially during the first year of infancy the mortality is much

greater among male children. The proportion gradually decreases to the fifth year, when the death-rate is nearly equal for both sexes. Although during middle life the mortality is slightly greater among women, it is not such as to equalize the sexes.

THE LIMITATION OF FAMILIES.

The physicians who have made a study of the maladies to which woman is subject when in the married state, have recognized several which are aggravated by the bearing of children. They have also found, by an examination of extensive statistics, that there is no good prospect for the child that too closely follows a former one. The condition of nursing is much interfered with by pregnancy; the born infant suffers by reason of the inferior quality of the milk which its mother furnishes under these circumstances; and the unborn infant is robbed by its elder brother or sister of a large share of the nourishment which should go to form its undeveloped members. This whole period of pregnancy and nursing is a severe strain on all women, and especially so on the feeble ones. Time should be

allowed for the body to fully recover, and an interval, more or less long, be permitted to elapse, after the mother has ceased furnishing sustenance to one child, before she should be called upon thus to offer up herself a second time.

We ask this not only in her interest; we urge it for the welfare of the child. Too often have we heard men, whose education should have taught them finer sentiments, discuss this subject by the remarks that child-bearing is woman's duty and destiny; that she was fitted for it by nature; that it does not hurt her to have all the children she can. Such coarse yet common expressions are as fallacious in science as they are unfeeling in sentiment. The unsound children which are the products of overmuch production, prove to any impartial observer that nature herself revolts from any such theory, as a flagitious abuse of her best gifts.

These children are unhealthy, fretful, ill-developed, not rarely weak-minded, often short-lived. Wretched progeny of an overtasked mother, they increase for a few

years her load of care, and perish ere they reach an age which can repay her for her hours of pain and toil.

If we draw the picture darkly, it is because years of experience have taught us the full falsity of the opinion too generally current upon this point; if it is said *too* darkly, we had rather err on this side than on the other.

But we know it boots little to exhibit the misfortunes of humanity for the purpose of looking upon them with grief and dismay. Such is not our purpose. We speak of the penalties upon wife and children which excessive child-bearing brings with it, in order that the husband and the father may be influenced to a determination to assist in preserving the health and comfort, perhaps the life itself, of those he loves, by energetic self-control, by every justifiable precaution, by self-abnegation if necessary.

Difficult as such a sacrifice may be on his part, let him remember that it is nothing more than the continent man must always exert. He must call to his support

the strong motives which hold in leash the animal desires under other circumstances. He must assist his endeavors by taking to his aid such arrangements of sleeping as will expose him the least to the temptation of breaking his resolve.

There is in each month of every woman's life a period during which she is sterile. This is known to physicians as the *agenetic* period. It begins at a time varying from a week to ten days after the cessation of the menstrual flow, and ends about a week from the first appearance of the next monthly change. During this *agenetic* period intercourse is unfruitful. Most women are also sterile while nursing. This sterility continues until the first monthly sickness occurs.

No circumstances, no condition of the system, no contingency in the domestic life, can excuse or palliate the

Crime of Abortion.

The destruction of the living child, even though unborn, has been regarded as criminal by the lawgivers of all ages, and we believe that now, in all civilized lands, severe penalties are attached to its commission.

The exposure of infants after birth, a custom dreadfully prevalent in oriental countries, is certainly not more unnatural than their destruction before birth, as is extensively practised to-day in this Christian and enlightened nation.

No parent with feelings above, or indeed equal to, those of a brute, would take the life of his or her child when born; yet many of them think that it is a venial sin to quench its little spark of existence when as yet it is in the womb. Such obtuseness of moral sense is an ominous and deplorable sign in a community. It indicates an absence of natural feeling and true morality, rather to be expected in a heathen age than with us.

The infant, born or unborn, is an individual, dependent, it is true, upon another for nutriment, but hardly more so before birth than during nursing. How unreal, therefore, is the distinction which, in their own selfish interests, people sometimes choose to draw!

We emphatically condemn the practice; and, as it is said to be rife among us, and often to be founded on ignorance, we gladly take advantage of the present opportunity to speak about it with no uncertain sound. In the language of a recent medical writer, "*From the moment of conception* a new life commences; a new individual exists, another child is added to the family. The mother who deliberately sets about to destroy this life, either by want of care or by taking drugs, or using instruments, commits as great a crime, is just as guilty, as if she strangled her new-born infant, or as if she snatched from her own breast her six months' darling and dashed out its brains against the wall. Its blood is upon her head, and, as sure as there is a God and a

judgment, that blood will be required of her. The crime she commits is *murder*, *child-murder*—the slaughter of a speechless, helpless being whom it is her duty, beyond all things else, to cherish and preserve.

"This crime is common. It is fearfully prevalent. Hundreds of persons in every one of our largest cities are devoted to its perpetration. It is their trade. In nearly every village its ministers stretch out their bloody hands to lead the weak woman to suffering, remorse, and death. Those who submit to their treatment are not generally unmarried women who have lost their virtue, but the mothers of families, respectable *Christian* matrons, members of church, and walking in the better class of society.

"We appeal to all such with earnest and with threatening words. If they have no feeling for the fruit of their womb, if maternal sentiment is so callous in their breasts, let them know that such produced abortions are the constant cause of violent and dangerous womb diseases, and fre-

quently of early death; that they bring on mental weakness and often insanity; that they are the most certain means to destroy domestic happiness which can be adopted. Better, far better, to bear a child every year for twenty years, than to resort to such wicked and injurious steps; better to die, if needs be, in the pangs of childbirth, than to live with such a weight of sin on the conscience."*

* "The Physical Life of Woman: Advice to the Maiden, Wife, and Mother." By Dr. Geo. H. Napheys. p. 99.

SIGNS AND SYMPTOMS OF PREGNANCY.

The sign most commonly relied upon is the *cessation of the monthly sickness.* The wife who misses the expected return of her monthly illness, is apt to conclude that conception has taken place. This sign is far from being an infallible one. Many other causes besides pregnancy may occasion a suppression, and pregnancy may exist without producing any effect, at first, upon the regularity of the periods. In some instances, during the whole course of pregnancy, there is no derangement of this function. Although, therefore, the ceasing to be unwell is an important sign, it is not a certain one, and must be sustained by others before a conclusion can be drawn.

The *morning sickness* is another indication known to all. It is much more reliable

than the one just mentioned. Ordinarily appearing the second or third week, it continues until about the time of quickening. It may present itself immediately after conception.

The *condition of the skin* not unfrequently affords an evidence of pregnancy. Blotches of various colors may be noticed; it loses its transparency and becomes wrinkled. The amount of perspiration is altered; being sometimes increased, sometimes lessened. Chronic diseases of the skin often forever disappear. These changes in the skin are not, however, constantly observed, nor, alone, can much weight be attached to them. It is only when they are associated with other signs and symptoms that they become of value.

The alterations which take place in the *breasts* are more constant, and to the experienced eye present a characteristic appearance. The glands become larger, the nipples more prominent and of deeper color, the veins under the skin of the breasts fuller and darker, and the pink circles about

the nipples more extended, of a purplish hue, and dotted with many small pimples. These changes in the breasts are rarely fully marked before the third month.

The *shape of the enlarging* abdomen is of more value as a sign of pregnancy than its size. The presence of tumors or of dropsy may produce a swelling here; but the enlarged abdomen due to pregnancy is of a peculiar form — it is pear-shaped. The pouting protrusion of the navel in the latter months of pregnancy is a noticeable sign of pregnancy.

A *depraved appetite*—that is to say, a desire for unusual, perhaps unwholesome, articles of food—is, when present, a very strong indication of the existence of pregnancy. Salivation, heartburn, loss of appetite, drowsiness, toothache, beating of the heart, etc., are among the many little annoyances of the pregnant state, which, being often produced by other causes, are of little value by themselves as signs.

Quickening is the sign of pregnancy to which mothers justly attach the most im-

portance. These muscular movements of the child are, as a rule, observed about the eighteenth week—that is to say, the middle of pregnancy. They may not be observed at all, owing to the feebleness of the child, the amount of fluid which surrounds it, or the insensibility of the uterine walls.

There are a number of other signs and symptoms of pregnancy known to the medical profession, which require an educated eye, ear, and touch for their detection. Their enumeration here would, therefore, be out of place. The one upon which the physician places the most reliance is the sound made by the beating of the child's heart, which, by a skilled ear, can be heard about the fifth month.

How the Presence of Twins may be Known.

An unusually rapid increase in size, more than ordinary severity of the morning sickness, the separation of the abdomen into two portions, one on each side, by a

fissure, and the existence, at the same time, of fœtal movements on both sides of the abdomen, are all indications of a twin pregnancy. These are not, however, infallible. There is only one sign which is conclusive. This again requires the practised ear of the physician for its detection. During the latter month of pregnancy the beating of each heart may be distinguished when twins are present, thus settling the question beyond all doubt.

We therefore see what an admirable aid the heart-sounds of the unborn child are in giving information otherwise difficult to obtain. They afford the best, and indeed the first absolutely certain, sign of the existence of pregnancy; and they enable us to foretell the number of children present.

THE HYGIENE OF PREGNANCY.

The condition of pregnancy changes the physical and mental condition of the woman. Physiologically and morally, she is another being. Unlike her former self, she requires peculiar cares and precautions to preserve her health, and properly fulfil the great mission to which she is now devoted. The hygiene of pregnancy, therefore, includes these precautions and even sacrifices, which, in her own interests and those of her unborn child, are imposed upon the wife about to become a mother. Our task would be incomplete if, after having pointed out the physical conditions of a well-assorted marriage, and those laws of inheritance which promise a vigorous and comely family, we should neglect the care of the new being during the period of its embryotic life. Much may be done

to secure the full and regular development of this living, though unborn and helpless, charge upon maternal tenderness. It has been appropriately said that sanitary science has habitually to contend with two opponents, human passion and ignorance. We believe that the most effective way of combating the former is by attacking the latter. In treating, however, of the sanitary rules of pregnancy, we feel sure of attention. We enlist in our favor the strongest of all passions, that of maternal love. For, the wife who has conceived no longer belongs to herself; she is the guardian of a new life. The care of her health, hence, becomes a sacred duty which she cheerfully assumes.

The Diet.

The proper regulation of the amount and character of the daily food during pregnancy is as difficult as it is important. The various troubles of digestion which are so apt to make their appearance in the early months, render it impossible to say in ad-

vance the exact quantity of food which may be proper. While some have an appetite unhealthfully great, not a few have a repugnance for nourishment of any sort. The latter need the appetite excited; the former, to have it restrained within reasonable limits. Although it is true, as a general principle, that the wife, having now a new being to nourish, requires an increase in her own diet, this increase should only be made in accordance with the dictates of desire. Great injury is sometimes done by an enforced augmentation in the number and amount of the meals, under the belief that this is always necessary. The effects of overloading of the stomach are often seen in permanent digestive troubles, which, of course, interfere with the growth of the child; or in disorders of the blood, consequent upon the superabundant nourishment. During the course of the fourth month there is frequently a notable increase in the appetite, which may, if care be not taken, lead to excesses in eating and drinking. These excesses should

be guarded against, as they are hurtful. The appetite may be satisfied by smaller quantities of food taken at shorter intervals. During the last few months of pregnancy more nourishment is required. This should be obtained by adding to the number of the meals and improving their nutritive character, and not by eating to repletion at each meal. The quantity of food taken should also be regulated by the possibility or impossibility of taking exercise. If, because of swelling of the limbs or varicose veins, the woman is condemned to a sedentary life, she will expose herself, and consequently her child, to the dangers resulting from an excess of blood, if she be not careful to adjust the amount of nourishment to the lessened wastes of her system.

In regard to the choice of food, this may ordinarily be left to custom and taste, when the wife is in the enjoyment of good health. When, however, she is suffering from *plethora*, an excess of blood, or from *anæmia*, an impoverishment of the blood, the diet should be suited to these opposite condi-

tions. These faults of the system are readily recognized; they are of frequent occurrence. Their treatment is a matter of medicine as well as of hygiene. In severe cases the family physician will give the proper directions.

The wife ought to subordinate the mischievous suggestions of her palate to the interests of the child she carries, and not overload the stomach with heavy and indigestible articles, which can do her no good, and may do harm. An annoying craving for food is often complained of during the night or in the early hours of the morning. At such times a little coffee and milk, or a piece of biscuit and milk, will be found useful. The temperature of the food and drinks may likewise be left to the taste, if it be not perverted. The efficacy of iced drinks in checking nausea and vomiting, is well known. In some instances very hot drinks prove serviceable.

The Dress.

The wife, so soon as she becomes pregnant, should cease to dress fashionably. The requirements of the fashionable world she has now nothing to do with. Her clothing should be so arranged as not to compress the abdomen, or the lower part of the chest. Hence the corset had better be abandoned after the first few months, and ought never be worn after the fifth or sixth month. If worn during the earlier months, it must be adapted to the changing form, never tightly laced, and the breasts and nipples carefully protected from compression or irritation. A neglect of these precautions, particularly in a first pregnancy, may be followed by serious consequences. There are three reasons why the corset should be speedily thrown aside: it interferes with the movements of respiration; it lessens the space, already too small, for the other organs in the abdomen; and it opposes the ascent of the enlarging uterus. The unborn child also may suffer

from the vanity or ignorance of the mother. A number of distinguished physicians have reported cases of monstrosities clearly traceable to the influence of the corset. The development of the head of the infant is particularly apt to be arrested by this compression of the waist. The well-known greater prevalence of deformities among illegitimate children has been justly attributed to the injury inflicted upon the fœtus through attempts to conceal the existence of pregnancy by tight-lacing.

While any compression or constriction of the abdomen is injurious, the uniform and systematic *support* of its walls, during the latter months of pregnancy, by an elastic, yielding bandage, which makes pressure from below upwards and inwards, will often be found of great service. But ordinarily nothing of the kind is required; when needed, the advice of the family physician had better be sought before purchasing any of the numerous "supporters" now everywhere offered for sale.

One of the frequent annoyances of the

latter months of pregnancy is swelling of the lower limbs. This condition is often caused, or aggravated, by the wearing of tight garters or gaiters. If the garter be worn below the knee, a hurtful practice peculiar to American women, the injury resulting from the constriction is increased.

Another disorder of advanced pregnancy is rheumatism of the womb. These rheumatic pains, often so distressing, would be of much rarer occurrence if flannel drawers were more generally worn at this time. In our climate this precaution is of the utmost importance.

That dress is the most healthful which affords the best protection against the weather, and is, at the same time, the most comfortable. The tyrannical demands of fashion, when opposed to these ends, should be during this period, so critical for mother and child, unheeded.

Air and Exercise.

Unquestionably, a residence in the country, during the months of pregnancy, is conducive to health, because of the pure air, the regular life, the freedom from social excitement, and the plain and healthful table found there more frequently than in the city. A removal from the city is not always practicable, and is only necessary when the health is very feeble. It is rather a matter of medicine than of hygiene, the family physician ought therefore to be consulted as to its propriety.

A point, however, upon which the physician unhappily is rarely consulted, is the regulation of the exercise taken during pregnancy. This is a matter of greater importance than may be apparent at first sight. Moderate exercise is favorable and desirable during all the months of pregnancy; it increases the appetite, improves the circulation of the blood, and gives tone to the nervous system. The promenade is useful, even in the last month, when it

tends to prevent attacks of headache, and congestions of the brain, to which one who leads a too sedentary life is then predisposed.

While moderate exercise is useful, all excessive efforts or violent and sudden movements are, on the contrary, dangerous. Dancing, particularly in the round dances, is often a cause of miscarriage. It should be rigidly interdicted from the outset. Railway travelling ought also to be avoided. Walking or standing, prolonged to fatigue, may lead to an attack of flooding.

The hours of sleep at night may, with advantage in most cases, be lengthened. Often, also, benefit will be derived from resting upon a lounge or sofa for an hour or two each day. This latter practice is strongly recommended during the earlier months for those liable to miscarriage.

The house and bedchamber should be kept well ventilated, and light. Fresh air and sunshine cannot be too freely admitted, nor too highly valued.

The Nervous System.

During pregnancy the nervous system is easily impressed, and readily thrown into violent excitement. Mental agitation is a very common cause of miscarriage. We see, therefore, the value of a quiet life, and the paramount duty of guarding against the emotions and passions. Fictitious emotions produced by the sensational novel and drama, are no less injurious than the real. One of the triumphs of the melo-drama is, and that not rarely, the premature accouchement of the matrons profoundly moved by it. It does not stand alone in this respect, for it shares its power with that class of romances written with the sole object of exciting the horror and convulsing the nerves of the reader.

The depressing emotions, as fear and anxiety, are very hurtful. The avoidance of gloomy forebodings, by every effort in her power, is a duty which the mother owes to the child she carries. It is also the duty of all about her to second these efforts, and

protect her from frightful and distressing scenes. This will be made more apparent after we have considered

The Influence of the Mother's Mind on the Unborn Child.

The causes which form "birth-marks," or "mother's-marks," have deeply interested the public and professional mind, from the days of the earliest antiquity. Hippocrates, who lived nearly five hundred years before Christ, admitted the influence of the imagination of the mother upon the product of conception. His opinion was shared by all the physicians of ancient times, who collected many instances in confirmation of it. This opinion has always received the credit of the unprofessional public. But in the beginning of the last century it was vigorously attacked by some prominent members of the medical profession, and until quite recently fell into disrepute. It was regarded as a popular superstition, and all the facts explained as mere coincidences.

Science has of late taken up anew the

investigation of this vexed question, and has signally proved the truth of the popular belief, and the correctness of observation of the great Father of Medicine. Among the recent American authorities upon this subject we may mention Prof. Wm. A. Hammond, of New York. In an able article he says, after passing in review a large number of authenticated examples of the influence of the maternal mind over the unborn child: "The chances of these instances, and others which I have mentioned, being due to coincidence, are infinitesimally small; and though I am careful not to reason upon the principle of *post hoc propter hoc*, I cannot, nor do I think any other person can, no matter how logical may be his mind, reason fairly against the connection between cause and effect in such cases. The correctness of the facts only can be questioned; if these be accepted, the probabilities are thousands of millions to one that the relation between the phenomena is direct."

Professor Dalton, the well-known physiologist of New York, states, in his Human

Physiology, that "there is now little room for doubt that various deformities and deficiencies of the fœtus, conformably to the popular belief, do really originate in certain cases from nervous impressions, such as disgust, fear, or anger, experienced by the mother."

Dr. Seguin, the most prominent American writer on idiocy, affirms: "Impressions will sometimes reach the fœtus in its recess, cut off its legs or arms, or inflict large flesh wounds before birth, inexplicable as well as indisputable facts, from which we surmise that idiocy holds unknown though certain relations to maternal impressions."

Dr. Napheys, of Philadelphia, says: "The view here stated"—that the maternal mind influences the unborn child—"and indorsed by modern science, is one which ought to have great weight with the mother, her relatives and friends. The practical conclusion which it suggests is, that as during pregnancy there is unusual susceptibility to mental impressions, and as these impressions may operate on the fragile structure

of the unborn being, this tendency should be well considered and constantly remembered, not only by the woman herself, but by all those who associate or are thrown in contact with her."

Prof. Carpenter, of London, Prof. Bouchut, of Paris, and many other physiologists and physicians of eminence, bear similar testimony. In illustration of their views, we append some of the principal facts observed by the authorities we have just mentioned. They are certainly of the highest importance.

Prof. Carpenter, of London, quotes in illustration of facts of this class the statement of Baron Percy, as to what occurred after the siege of London in 1793. In addition to a violent cannonading, which kept the women for some time in a constant state of alarm, the arsenal blew up with a terrific explosion, which few could hear with unshaken nerves. Out of 92 children born in that district within a few months afterwards, Baron Percy states that 16 died at the instant of birth; 33 languished for from

eight to ten months and then died; 8 became idiotic and died before the age of five years; and 2 came into the world with numerous fractures of the bones of the limbs, caused by the cannonading and explosion. Here, then, is a total of 59 children out of 92, or within a trifle of two out of every three, actually killed through the medium of the mother's alarm and the natural consequence upon her organization. This is an experiment (for such it is to the physiologist) upon too large a scale for its results to be set down to mere coincidences.

Prof. Carnochan, of New York city, has written an account of two cases of hare-lip, which, he says, he has "no doubt occurred from maternal impressions conveyed to the fœtus." One, he states, by a dentist who roughly lifted the mother's upper lip at the sixth month of her pregnancy; the other, by a female, then pregnant eight weeks, seeing two girls suddenly enter a room, who each had been imperfectly relieved by surgery of this deformity. Prof. C. then adds: "I could proceed enu-

merating cases of a similar character, proving, as I believe, the positive influence of maternal impressions upon the fœtus. I am disposed to the belief that the impressions have most effect during the early periods of pregnancy."

The late Prof. Valentine Mott, of New York city, stated that he knew a medical man who had a faithful and perfect picture of a pig, represented by a mother's mark, on his back. His mother, during pregnancy, was frightened by a black pig suddenly running from behind a currant-bush, whilst she was walking in her garden. Prof. Mott also removed, from the side of a lady, a mother's mark representing in every respect a veal-cutlet, with the appearance of grains of pepper on it. This preparation can be seen in Prof. Mott's museum. The history connected with the case is this: The lady's mother wished to eat a veal-cutlet, and sent her husband to procure one; on his return without it, she felt greatly disappointed, and slapped her hand on her side, exclaiming, "O, my! what shall I do?"

The infant, on being born, was found to have the mark described, at a part corresponding with the part of her side she struck with her hand.

Prof. Alfred C. Post, of New York, relates the case of a mother frightened by a mouse, which suddenly ran across the floor. Her child had "growing from the back of its neck a little prolongation, an inch and a half in length, covered with silky hair, and bearing a striking resemblance to the tail of a mouse."

MM. Grimaud de Caux and Martin St. Ange say, in regard to this matter:—

"After fecundation is accomplished, the new being remains for nine months under the influence of the maternal organization. It constitutes a part of this organization, and consequently causes, of whatever nature, act both upon mother and child. Pregnancy is a function of the woman, as are digestion and the acts of secretion of various kinds; and if these latter are affected by moral impressions, why should not the former be also similarly acted upon? If

the composition of the blood be altered, is it possible that the fœtus, which is being developed in the mother's womb by this fluid should not undergo detrimental changes?"

Dr. Alfred Meadows, Physician to the General Lying-in Hospital of London, in a paper entitled "Case of Monstrosity, with Remarks on the Influence of Maternal Impressions on the Fœtus in Utero," which was read and discussed before the Obstetrical Society of London, says, in defending his view of the power of maternal mental impressions over the unborn child:—

"Further, it has been objected to the view here taken, that if the assumed cause, maternal imagination, were really the efficient agent, the resemblance between the idea and the fact ought to be greater than it often is. I do not think the objection a valid one, because the amount of deformity only shows the degree to which force has, as it were, conquered matter, and how far it has failed of its object; it proves nothing more.

"Great stress has also been laid on the fact that during the earlier weeks of fœtal life the relation between the fœtus and the parent is one of simple contact; hence it is argued that no mental impression could reach it to produce the effects described, and yet many of these deformities must have commenced about this period. I think I have already answered part of this objection; and as to the latter, of course it is not pretended that mental impressions are the only, but that they are an occasional, cause of bodily deformity.

"Again, it is urged that the fact that monstrosities occur among the lower animals is proof against this theory, because it would be ridiculous to suppose them to be the sport of mental emotions. I can only say, in reply, that I have no more doubt of the existence of mental emotions in the lower animals than I have in the case of man; and I think any one who has studied the lives of domesticated animals, and has watched them during the period of pregnancy, must have seen how very emotional

they are, and what solicitude and care they often exhibit at such times.

"Until, therefore, some other explanation is offered of the many cases of monstrosity which crowd medical literature than that they are mere freaks of nature, I for one am prepared to accept the doctrine that among the many causes of bodily deformity the influence of the mind of the mother deserves a by no means unimportant place."

We could readily extend our list of well-authenticated cases of mother's marks, carefully observed and investigated by scientific men, clearly traceable to strong mental emotion in the mother before the birth of the child. We merely wish to observe again, as a fact of great practical moment, that the highest medical authorities now consider that the popular belief in the relation between maternal impressions during pregnancy and birth-marks is fully sustained.

The mind of the child, as well as its body, may be affected by the mental agitation of its mother. Dr. Seguin, in his treatise

upon idiocy, gives the history of a number of idiots, whose misfortune was due to fright, anxiety, or other strong emotion of the mother. Can we attribute to the terror which Mary Stuart experienced on seeing Rizzo assassinated in her arms, while she was pregnant with James the First, the fright that this prince always showed upon the sight of a naked sword? Did the artist Flaxman owe his wonderful skill in drawing to the attentive study of the best works of art sedulously pursued by his mother during the months preceding his birth? The many analogous facts which have been observed would lead us to answer these questions in the affirmative.

Precautions during Pregnancy in the Interests of the Child.

From what we have said of the impressibility of the nervous system during the whole period of pregnancy, and of the possible effects of mental and moral emotions upon the body and mind of the off-

spring, practical conclusions are readily drawn. As disgusting or terrifying sights may make indelible marks upon the fœtus, all exposure to them should be guarded against. As, on the contrary, pleasing objects, cheerful and inspiring thoughts, mould its mind and morals, ought they not to be invoked as a powerful means of educating the child before its birth? The education of the child in the womb is no chimerical idea. It is real and practical. It always takes place, through the maternal mind, whether it be intelligently directed or not. This education is the most potent the child will ever receive. Its effects are ineradicable.

Contact with contagious diseases, especially smallpox, erysipelas, and chicken-pox, which are apt to mark the child, should be avoided. Nature aids the mother in her efforts to escape contagion by rendering her less susceptible to morbid influences during pregnancy than at any other time.

Is Pregnancy Useful or Hurtful to Female Health and Beauty?

It has been said by a distinguished writer upon hygiene, Prof. Michel Lévy, that human life acquires more tenacity by the trials to which it is submitted, provided these be not of a nature to break the courage or paralyze the will. Pregnancy is one of those trials which strengthen the health of the woman, if it be not already too much impaired. It is evident, from natural laws, that woman was intended to become a mother, just as man is incomplete until he has obtained the title of father. It would, therefore, appear only rational that the accomplishment of the mysterious function of reproduction should be for both sexes a condition of good health.

Dr. Lévy, after enumerating, in his "Traité d'Hygiène," the sanitary advantages of marriage, says: "Finally, and as if to more earnestly solicit the reproduction of the species, nature has placed on the side of maternity the greatest chances for

health and long life; celibacy is sadder for women than for men; female convents contain a greater number of sick and invalids than male convents. Fecundation and pregnancy strengthen the female constitution. Who has not remarked the flourishing health of wives, mothers of numerous children, in contrast with the withering and fading influence of sterility?"

Another distinguished writer upon the laws of health, Dr. Becquerel, is of the same opinion. He states: "Notwithstanding the disorders which attach to pregnancy, childbirth, and miscarriages, the duration of life is longer with married women than with maidens."

If pregnancy be favorable to female health and longevity, as all experience and authority assert, is it also favorable to the preservation of comeliness of face and form?

This question is not a light one. We ask, and shall answer it, in all seriousness. Personal beauty is woman's peculiar attribute and power. It is her duty to cultivate and preserve this gift of nature. There are,

without doubt, other and higher duties to which she should sacrifice this, if need be; but we shall find that the laws of nature, here as elsewhere framed with admirable wisdom, do not intend that woman shall find in maternity an enemy to her physical beauty.

The young girl has personal attractions to which the world bows in admiring homage; the wife, a mother, has hers, which often yield in nothing to the former. The physical advantages with which the young girl is endowed do not disappear, they are only modified.

During the condition of pregnancy, it is true, the freshness of the complexion is often lost, and the eyes fail of their accustomed vivacity and brilliancy; but after the birth of the child, these accidents cease to exist, and the wife refinds her pristine splendor. And it frequently happens that certain women are never so beautiful as during the latter months of pregnancy.

From what has been said, we see that there are many advantages on the side of

maternity; indeed, it could not be otherwise without placing nature in contradiction with herself. Meanwhile, we shall not attempt to conceal the fact that there are some grave inconveniences connected with this condition, which we shall presently study, in the hope of suggesting means of prevention and amelioration; but it must not be lost sight of that these inconveniences are amply compensated for by the incontestable advantages which the wife-mother enjoys.

Influence of Pregnancy on the Intellectual Faculties.

It has been said that woman can only arrive at the complete and effective development of her intellectual faculties after having become a mother. Maternity seems to secure a certain harmony of relation between the physical and moral natures. If we consult statistics, we find that celibacy appears to exert a sad influence on the intellectual faculties of the woman, for

among the insane we find a greater number of women unmarried than married. Whilst this can in part be accounted for by other causes, there can be no doubt that celibacy itself acts as a real and powerful cause.

In a happy marriage, crowned by maternity, new sentiments develop themselves in the wife. She becomes calmer and more tranquil. It is then that she acquires all her talents, that she arrives at the summit of her intellectual and moral development. In the general quietude of all her functions, thought is more active; in a word, all the powers of her life receive a new and salutary impulse. She becomes more capable of high conception and of acts of self-sacrifice. She becomes less readily embarrassed; her timidity changes to assurance, to boldness in time of need. She is less expansive, more concentrated in her domestic life, more occupied with her family affairs than with the pleasures of the world. She has found her sphere, and moves with

a tranquil and assured step, satisfied with her destiny.

We have not sketched an ideal woman. We have merely stated the habitual effects of maternity. We have given, in general terms, its tendency; the exceptions, the digressions from nature, do not concern us. A bad education, an unhappy temper, or unfortunate circumstances, may bring about other results. But the natural and the ordinary effects of maternity upon the mental and moral nature are most happy and salutary.

THE PERILS OF PREGNANCY.

We have been speaking hitherto only of the beneficial influence of pregnancy on the physical and mental constitution of the woman. At the same time, we have acknowledged that it exposes her to certain perils. The great change which it occasions in her whole organization predisposes her to new maladies. These we shall now consider. Our previous remarks on the advantages of maternity show that although, as we are about to see, pregnancy exposes to certain affections, it saves also from others, to which the wife would otherwise have been subject.

Maternity is in general, as has been stated, a cause of long life, notwithstanding that childbirth sometimes proves fatal. The mortality in confinement is, however, very slight when the wife has the comforts

and favoring influences of a home. In hospital practice, for various reasons which we will not here detail, the loss of life is much greater. It increases in proportion to the number of inmates in the hospital.

Puerperal mania is one of the most serious of the maladies which are peculiar to childbirth. It may develop itself during pregnancy, immediately after confinement, or during the period of nursing. It occurs, however, much more frequently after confinement than before. In the majority of instances it presents itself within the first few days after the birth of the child. When it is developed during pregnancy, it usually takes the form of *melancholia*, *i.e.*, morbidly low spirits; with those recently confined, *mania*, *i.e.*, morbid excitement, is more frequent than melancholia.

This loss of mind is rarely permanent. The cure is ordinarily effected within a short time after the confinement. The appearance of this disease should not, therefore, excite unnecessary alarm.

When the mental alienation commences during pregnancy, it frequently happens that it disappears on the birth of the child. Some wives have a certain degree of mental disease during every pregnancy, which vanishes completely after each delivery.

The *causes* of this affection are various. One of the most frequent is hereditary predisposition to insanity. Nearly or quite one-half of the recorded cases have occurred in those in whose family there is a tendency to insanity. Exhaustion of body and distress of mind are the ordinary causes in those not predisposed to the disease by family taint. Hence, we see again the importance of keeping a careful guard upon the condition of the health, in accordance with the general principles stated in the chapter on the "Hygiene of Pregnancy."

A question which is often discussed in this connection is the probable consequence of pregnancy upon a woman *previously* subject to mental aberration. Some medical writers have accorded to pregnancy a powerful remedial influence in cases of

mental disorder; others have hesitated to accord to it any good effects whatever upon the diseased mind. Perhaps the opinion of one of the wisest of the authorities upon insanity, Dr. Esquirol, expresses the truth: "Pregnancy, confinement, nursing, are among the means by which nature sometimes terminates insanity; but I believe these terminations are rare."

The influence of pregnancy upon chronic and recent diseases, already existing or acquired before or immediately after confinement, is sometimes favorable, sometimes hurtful. We cannot pass in review all these affections, but will mention a few. The diseased condition, while it is modified by the pregnancy, also in turn reacts upon it. Thus, acute diseases of all kinds are apt to occasion miscarriage. On the contrary, according to some authors, chronic affections prolong the term of the pregnancy, on account of the general debility they occasion. In such cases the infant acquires greater development before its birth. For this reason it has been asserted

that the children of women with consumption are at birth unusually large. These facts are not fully established, and the influence of chronic diseases in lengthening the duration of pregnancy is not a constant one.

It sometimes happens that pregnancy aggravates a certain malady in one woman, while it proves favorable to it in another. This is due to the fact that the disease has, in the two cases, a very different origin. Take, for instance, *hysteria*. In some hysterical women pregnancy increases the disorder; in others it ameliorates it, and may even effect a radical cure. Why is this? For the simple reason that the disorder has its seat in the brain in the one instance, and in the other it is dependent upon an irritable condition of the womb. Here, however, we touch upon a purely medical question, for it often requires the exercise of the highest skill of the physician to distinguish the one form from the other.

Pregnancy may prove a means of cure

in cases of *bleeding from the lungs*, from the nose, and in other hemorrhages from parts distant from the uterus, while it is apt to aggravate those which have their seat near it.

Chills and fever are less apt to be contracted during pregnancy than at any other time. They often cease under its influence. If they continue in a severe form, they ordinarily produce miscarriage.

The eruptive fevers are much more grave during the pregnant state. *Smallpox* in particular has its mortality greatly increased. An extraordinary fact in this connection, which is testified to by many of the best medical witnesses, is that the fœtus alone may be affected during its intra-uterine life, while the mother does not contract the disease. In these cases the mother, proof herself against the epidemic, serves as a means of communication between the virus and her unborn child, which may be born marked with the disease.

Scarlet fever is less grave for both the

mother and child. It produces sometimes, however, abortion, and then places the life of the mother in danger.

Measles cause, it is said, miscarriage in about one-half of the cases in which they occur during pregnancy.

Those who expose themselves while pregnant to *lead-poisoning*, are very subject to miscarriage.

Diseases of the skin sometimes disappear during pregnancy, and reappear after confinement. The union of the ends of fractured bones is also sometimes suspended during the whole continuance of pregnancy; while, after confinement, it takes place quickly.

Notwithstanding the accidents, complications, and even disease, to which wives are exposed in becoming mothers, we can again assert, with Dr. Michel Lévy, that nature has placed on the side of maternity the best chances for health and longevity. It is necessary, however, in order that this may be the case, that the woman shall have attained her growth before she becomes a

wife and mother, and that she shall have no advanced disease of any organ. Under these conditions pregnancy is followed by an increase of strength, and often proves a valuable means of averting a threatening disorder.

The Treatment of Morning Sickness.

We have already spoken of morning sickness as one of the signs of pregnancy. To a greater or less extent it may then be expected in every case. It is only in those instances in which the nausea and vomiting are excessive or prolonged that treatment is required to keep them in check.

Vomiting may not be present during the whole course of the pregnancy. On the other hand, it may appear almost on the very day of conception. The following case is recorded by a prominent physician. "I had once a lady under my care, in whom there was reason to believe that the morning sickness began the day after conception, and the date of her labor corresponded to

such belief. More recently I attended a patient who was married on a Monday and began to be squeamish on Saturday; her delivery took place within nine months."

Ordinarily, the sickness and efforts at vomiting are noticed immediately on rising from bed in the morning, and continue for a quarter of an hour to an hour. Sometimes, however, the nausea is only felt after eating, and may be postponed until evening, the patient being sick during the night instead of the morning.

The sickness does not always pass away in the course of an hour's time. It may persist all day and during the whole period of pregnancy. These cases are those in particular which require medical aid, for the patient's health is endangered by the constant nausea, which prevents her from taking or retaining food.

A large number of remedies have been suggested and used with varying success in the treatment of morning sickness.

Very frequently, great advantage will be obtained by placing over the stomach a

cloth wet with *laudanum* or with *chloroform.* The application of a cloth saturated with laudanum sometimes succeeds when every form of medicine given internally has failed.

A wineglass of *columbo tea* (made by adding half an ounce of powdered columbo to the pint of boiling water), before each meal, will often prove of service.

A tablespoonful of *lemon-juice* mixed with a tablespoonful of cold water, and taken several times a day, will be found useful. So also with a tablespoonful each of *lime-water* and milk two or three times a day.

The application of a *blister* or of a *turpentine stupe* or a *mustard poultice* to the stomach is often attended with great benefit.

Powdered *charcoal* is a harmless and, in some cases, a valuable remedy. It should be given in very fine powder (*willow charcoal* being chosen). The dose is twenty grains every two or three hours until the desired effect has been obtained. It will make the stools very black, a fact which

should be known, to prevent unnecessary alarm.

Iced water is a very pleasant and sometimes very beneficial beverage. Ice pills are also found useful in checking the vomiting. On the other hand, very hot drinks have the desired effect with some persons.

The following recipe is a very valuable one :—

Take of—

Citric acid	24 grains,
Simple syrup	1 ounce,
Water	1½ ounce.

Mix and put in a bottle labelled No. 1.

Then take of—

Bicarbonate of potassa .	36 grains,
Water	2½ ounces.

Mix and put in a bottle labelled No. 2.

Take first a tablespoonful of No. 1, and then a like dose of No. 2.

As to the *diet*, the principal thing is to allow the patient to eat whatever she may fancy and whenever she may desire it. Every hour, or even when there is much

debility every half hour, a small quantity of some nourishing food should be taken, such as a tablespoonful of milk, a biscuit, or a piece of cake flavored with ginger. By giving small quantities of plain simple but nutritious food at a time, and at those hours when the stomach is least irritable, a sufficient amount of nourishment may be afforded. If the case resists the remedies we have mentioned, and the vomiting is so severe as to prevent all nourishment, medical assistance is demanded, for the trouble is of an unusual and serious character.

Marital Relations during Pregnancy.

Moderation should always be observed during the whole of this period in the relation between husband and wife. Conjugal relations, at this time, have been condemned altogether by some. This asceticism is, in general, unnecessary. There are certain circumstances, however, under which intercourse is hurtful. There are, also, certain precautions to be noted. Those wives

liable to miscarriage, and particularly those who have aborted during the first pregnancy, should sleep apart from their husbands for the first four or five months after conception.

Intercourse ought to be avoided during those days of the month when, if there were no pregnancy, the monthly sickness would have been present. This caution is an important one; its disregard is a frequent cause of miscarriage.

After a miscarriage, marital relations should not be resumed until a least a month has elapsed. Much suffering, and many tedious diseases of the womb, can often be traced to a violation of this hygienic rule.

After confinement, two months should pass before the resumption of the customary marital privileges.

How to ascertain the Probable Date of Confinement.

Many mothers are in the habit of calculating the time of their expected labor from

the period of quickening. This method is a very uncertain one, on many accounts. A much more accurate date of departure, in making the calculation, is the *day on which the last monthly sickness ceased.* By subtracting three months, and adding seven days to this date, the month and day of the confinement will be obtained. Let us illustrate this by an example. We will suppose that the day on which the last monthly sickness disappeared was the 20th of February. By subtracting three months, we have November 20th; and by adding seven days, we arrive at the 27th of November as the exact date of the confinement. It will be found that November 27th is two hundred and eighty days distant from February 20th. Forty weeks, or two hundred and eighty days, is the average duration of pregnancy. This manner of counting is more convenient and accurate than any other which has ever been suggested.

PART III.

The Wife a Mother.

With the birth of her child, the wife has become a mother. A new being implores her care, and she enters upon the great mission of her life. She needs now more than thoughtless tenderness, or blind zeal, to enable her to perform well her maternal duties. She requires a knowledge of the elementary laws of health. Without it, how can she with safety take charge of her child at the very threshold of its life. Yet, it is just this knowledge which she is most apt to lack. It is the one branch of her education, the most certain to have been neglected. Although she may have been instructed in the accomplishments of fashion, and may even be able to sew with

Penelope, or to make preserves with the daughters of the Vicar of Wakefield, yet, in all that pertains to maternity, she scarcely knows more than nature has taught her. We shall, therefore, be somewhat minute in our counsels to the young mother, in regard both to the care of her own health, while nursing, and the proper manner of preserving that of her new-born child. First we will inquire into the reasons.

Why a Mother should Nurse Her Own Child.

The child during nine months has been nourished directly by the blood of the mother. It now demands her milk, as well as her cares. Not without the strongest reason, and the fullest concurrence of the family physician, should the mother withhold herself from this tender office. The mothers of ancient times never lightly transferred to another this duty. Even those of noble birth nursed their own chil-

dren. Thus, we read that Sarah (whose name in Hebrew signifies princess and indicates noble birth) herself nursed Isaac, notwithstanding her advanced age when he was born. So, also, Hecuba nursed Hector; and Penelope, Telemaque. The laws of Lycurgus strictly enjoined this duty. Demosthenes, in one of his orations, publicly blames some mothers who neglected to nurse their children without being able to assign any serious reasons.

At Rome, maternal nursing was at first held in great honor, but later the matrons renounced it, and had recourse to wet-nurses. This was carried to such an extent as to excite the lively indignation of Juvenal, and to call forth eloquent protestations from St. Ambrose and St. Chrysostom. In this connection, we may call attention to a remarkable discourse, attributed to the philosopher Favorinus, on the moral obligation of the mother to nurse her own child. As it affords an excellent page of hygiene, and a curious picture of Roman customs at that epoch, we translate it.

"One came to announce, says Aulu-Gelle, to the philosopher Favorinus, and in our presence, that the wife of one of his auditors had just been confined, and given birth to a son. 'Let us go,' said he immediately, 'to see the mother, and congratulate the father.' The family was a noble one, which had given some senators to the country. We all followed Favorinus; we accompanied him to the door of the house, and entered with him. He met the father in the vestibule, embraced and congratulated him, and then seated himself. He inquired whether the labor had been slow and tedious, and, having learned that the young mother, fatigued by her vigils and pains, was sleeping, he gave freer play to his words. 'I doubt not,' said he, 'she is disposed to nourish her son with her own milk.' The mother of the young wife* having replied that it was necessary to use

* How true to life is this scene, and how like is the mother of that time to those whom we now meet every day at the bedside of their daughters!

some management, and to give the child to the wet-nurse, in order not to add the fatigue of nursing to the sufferings through which her daughter had just passed: 'I beg you, woman," replied Favorinus, 'to permit your daughter to be entirely the mother of her son. To give birth, and then immediately separate from herself the being she has just brought into the world, is not that wrong and contrary to nature? Such a one is only half a mother, for, after having nourished within her a being that she sees not, she refuses it her milk, when she clasps it in her arms, living and imploring the maternal breast. If she who destroys her infant before its birth merits public hate and execration, scarcely less culpable is she who refuses the infant, born at full term, this nourishment from her blood, a nourishment to which it has become accustomed. But what matters it, say some, provided it lives and is nourished, at whose breast it is placed. They who are so deaf to the voice of nature as to utter this language, do they not, also, think what matters

it in what body and from what blood the child is formed? There is another consideration which must not be overlooked. Is it not true that mothers who abandon and send from them their infants to be nursed by others, destroy, or at least relax, the tender tie by which nature unites the soul of the infants to that of the parents? A child placed out to nurse is scarcely less forgotten than one dead. And if it can yet love its father and mother, this love is not the effect of nature, but the fruit of society and opinion."

This language is severe. But may it not be taken to heart, with advantage, by some of the votaries of fashion and pleasure of our own day and country?

We believe, however, that the majority of American women do not need to be exhorted and stimulated to nurse their own children. It has been our lot to more frequently meet with mothers whom it is necessary to restrain, in their own interests and those of their babes, from the exercise of this loving function, upon which they

themselves insist. A mother cannot nourish her child with her affection only; she must have milk, and in order to have milk she must have a certain degree at least of health, and above all regular and steady health, such as is not at the mercy of every emotion or slight loss of sleep. It is well, therefore, to know those circumstances under which the young mother should be urged to keep her child at her own breast, and those under which she should be dissuaded from it, and asked, for the sake of her child, to hush the voice of her heart and listen to reason. Hence we shall pass in review the qualities which should be possessed by the mother to enable her satisfactorily to nurse her child; those which render nursing difficult; and, finally, those which forbid it altogether.

What the Mother Needs to Fit her to Nurse her Child.

It is difficult to define exactly, in general terms, the conditions of health which

the mother should possess to enable her to suckle her child. She requires less an appearance of robust strength than a constitution free from hereditary taint. The question is one of great gravity. There are some mothers who appear delicate and yet make excellent nurses, if they only exercise discretion and intelligence. The first three months of life are the most perilous to the existence of the new-born child. Nearly all mothers, excepting those affected by constitutional disease, are capable of giving the breast during this time at least, without fatigue, if they follow a suitable regimen, and nurse only at certain hours and regular intervals.

Not only should the mother nurse the child, if her health permit, because she thus secures the best interests of her infant, and guards it against the dangers which attend wet-nursing or raising by hand, but also because she thus benefits herself. She is contributing to her own physical vigor. It is a function necessary,

or at least very useful, to her health after childbirth.

What Makes Nursing Difficult.

Depressions or deficiencies of the nipple oppose an obstacle to the proper adjustment of the lips of the child. They rarely, however, prevent nursing altogether, as they may be remedied by the physician in attendance. The mother should prevent such an occurrence by attention during the last months of pregnancy to the condition of the breasts.

Cracks and fissures of the nipples are more troublesome, and may present an insurmountable barrier to the continuance of nursing. The mother should not give up in despair too quickly. A little perseverance in the remedies which will be ordered, and a willingness to endure for a while the pain, will generally be rewarded by a cure. All these sufferings may be avoided by the observance of those cares of the parts which we have enjoined prior to the birth of the child.

What Forbids Nursing.

Unquestionably, if the mother be suffering from pulmonary consumption, she should not take her child to her breast. If, although there be no marked signs of disease, the mother is manifestly so feebly constituted that she will not be able to sustain to the end its fatigues, she should not impose upon herself this maternal duty. Here, however, the advice of the family physician should be sought, with the intention of being guided by it. The same rule of conduct is proper in cases of suspected hereditary tendencies. As a general principle, the existence of a chronic disease, which has to any considerable extent broken down the vital force of the mother, forbids lactation. We arrive therefore at the following

Conclusions Relative to Maternal Nursing.

1st. The mother ought to nurse her child when she is able. It is a duty which her

nature and conscience impose upon her. It is conducive to the physical and moral well-being of herself and her infant.

2d. The mother ought not to undertake this charge when her health would suffer by the attempt. She should be guided as to this by intelligent medical counsel.

3d. When there exists neither in the family nor the person of the mother any scrofulous or other hereditary disease; when she shows no tendency to consumption nor other chronic malady; when she has ordinary flesh and strength; when her appetite and digestion are good; when she is readily refreshed by food and sleep; when her milk is good in quality and in sufficient quantity—then, not only is nursing permissible, but it ought to be counselled and encouraged, for the best nurse for the child, in such a case, is the mother herself.

Important Hygienic Facts and Rules.

We believe that there are many principles of hygiene, bearing upon the nature

of the mother's milk, and the influences which modify it, and upon the proper manner of nursing, which every woman should know. They concern the health of the child at the time when it is most frail. All animals seem to know better than ourselves how to take care of their newly-born offspring. With us ignorant solicitude is not rarely as hurtful as wilful neglect. When we reflect that a day with an infant has more influence upon its ultimate health than a month with an adult, we see the advantages and the evils which may result from the various methods of nursing, weaning, etc., and the importance of correct knowledge in securing the sound physical education of infancy.

Holding these views, we shall devote a number of pages of our book to the sanitary rules which concern the mother and her child during the period of nursing and infancy.

How Soon after Birth should the Mother give the Breast?

We reply, so soon as the mother has recovered a little from the fatigues of the confinement. Two, four, or six hours suffice for this purpose. A prejudice is frequently met with which would deny the breast for twenty-four, thirty-six, or forty-eight hours, quieting the cries of the infant with some sugar and water, tea, or other preparation, more or less injurious. A few hours of repose for the mother and child, after the birth, before commencing to nurse, are beneficial. During this time, the mouth of the child should be cleansed from mucus, and prepared to receive the nipple.

There are three reasons why the infant should be placed thus early to the breast. First, its efforts at nursing will, through sympathy, occasion contractions of the womb, and so secure the mother against the danger of flooding. Secondly, nursing will guard against the sudden engorgement of the breast, and the violent milk fever, to

which the mother is otherwise exposed, on the second or third day. Thirdly, the first secretion which the breast contains (called *colostrum*) is a mild purgative. The child needs it to free its bowels from their contents (called *meconium*). The child, also, escapes being dosed by officious attendants with the noxious preparations ordinarily offered it, if it be not provided at once with its appropriate nourishment.

Precautions in giving the Breast.

The infant is placed at the breast, but it will not nurse. There may be three causes for this:—

1st. *The child does not know how.* It must be taught by placing the nipple in the mouth, after first cleansing it with a little tepid water. Care must be taken that its nostrils are not obstructed by the breast. Sometimes the face of the child is so applied to the breast that it is unable to breathe through the nose at all, or only with diffi-

culty, obliging it every moment to quit its hold of the nipple, in order to respire.

2d. *The child is not able to suckle because of a want of activity, or a condition of feebleness.* In such a case, the mother should place the nipple in the mouth, and solicit a flow of the milk. It sometimes happens that all attempts of this kind, to induce the child to drink, fail; and as, at the same time, it does not cry, but sleeps continually, without seeming to want anything, the mother respects this repose, which seems to her restorative, and a sign of health. When, however, at the end of several hours, the attempt is made to awaken it to put it at the breast, the child utters feeble cries, and it is evident that it is beginning to get cold. It is necessary now to commence and continue every effort to excite the circulation of the blood. The child should be disrobed before a warm fire, and the surface of the body rubbed with warm flannels, dry or moistened with brandy, and slapped with the hands. Renewed efforts should be made to induce it to nurse,

and, if these fail with the mother, recourse should be had, if possible, to another whose milk flows more easily. These directions are for guidance in the absence of the physician, who should be summoned in such an emergency without delay.

3d. *The child is not able to suckle because of a defective condition of the lips, gums, tongue, or the entire mouth.* In this case, of course, the advice of the surgeon is to be immediately sought, so soon as an examination, which ought to be made, shows there is something wrong. Or the child may not be able to nurse because of a bad habit it has of pressing the tongue constantly against the palate. This is particularly apt to occur with children who have not been applied early to the breast. The nipple, in such instances, is received between the lower portion of the tongue and the floor of the mouth. All that is necessary is to depress the tongue with the little finger, for the first few times, until the habit is broken.

There are some infants who are slow in

deciding to nurse. An effective way of stimulating their desires is to cause a few drops of milk to run into their mouth, when, finding it to be pleasant, they will willingly seize the nipple.

The mother should give successively first the one and then the other breast, so as to empty them equally and not fatigue one nipple more than the other.

As soon as the infant ceases to nurse, be it awake or asleep, the nipple should be withdrawn from its mouth. Above all, the child should not be accustomed to go to sleep only at the breast of the mother.

Which is the best Position in which to Nurse?

Prof. Cazeaux, the world-renowned French obstetrician, recommends the mother always to lie down on the side corresponding to the breast which she offers, the nipple will then readily fall into the mouth of the babe placed at her side. When, however, it is not convenient to assume the recumbent

position, the mother should sit directly upright, with the back well supported. She ought never to nurse while in a half-sitting, half-lying position. Such a posture hurts her figure and weakens her back. Neither should she give the breast standing or walking, or in a jolting carriage. She must never nurse the child in a cold or damp place, or where there are currents of air, for such imprudence may be punished by inflammatory or neuralgic affections of the breast. As soon as the repast is over, the precaution should be taken of carefully covering the breasts.

How often ought the Child Nurse during the Day?

Mothers frequently ask, should they have regular hours for nursing? We reply, yes. It is better for both mother and child that the latter should take the breast only from time to time, and that regular intervals should intervene between its repasts. Of course no rule on this subject can be laid down with mathematical accuracy. Such

an attempt would be ridiculous. We counsel, in general terms, the following system.

During the first few weeks, when the need of food and the dangers resulting from the want of it are great and pressing, the child should nurse every second hour. At the end of a month the interval should be three hours, and after the second month, four. An infant, in good health, when fifteen days old, will commence to show clearly when it is hungry; at the close of the second month it generally sleeps when it has had sufficient, and wakes when it wishes food. It must not be understood that it is necessary to feed it every time it wakes. As the infant grows older it will take more at one nursing, but the greatest time which should be allowed to elapse between any two repasts is four hours. We are speaking now of the daytime.

Is it Necessary at Night to give the Breast so often as in the Daytime?

No, it is not. Towards the tenth or eleventh day, the mother ought to increase

the intervals at night so as to give the breast only three times, the first say about ten o'clock, the second about one o'clock, and the third towards five o'clock. At two months of age, the one o'clock meal should be omitted, or consist of a little cow's milk and water, in the proportion of one part of milk to two of water. The upper portion of milk which has stood for several hours is to be preferred for the purpose.

A nursing mother should sleep at least seven or eight hours during the night, for this amount of sleep is indispensable for the proper preservation of her own health and the development of her child.

If the mother be not strong, it may even be better that she should not nurse at all during the night. In this event, the child should be fed once or twice with the mixture of cow's milk and water just mentioned.

Too often mothers and nurses attribute all infantile cries to hunger, and seek to appease them by continually offering the breast. The child frequently cries for

other reasons than this. The cries of hunger are accompanied by agitations of the arms, while the infant moves its head, opens its mouth, and seizes eagerly the end of the finger.

The Amount of Milk the Infant Needs.

This varies, of course, with its age. During the first two months it takes about three ounces, that is, six tablespoonfuls or two wineglassfuls, at one time. It will have, therefore, in the twenty-four hours somewhat over a quart. Above three months of age it will require about a quart and a half during the day and night.

The mother should be able to give the child all the milk it requires until it is five or six months of age.

In general, the child, so soon as it has had sufficient, falls asleep at the breast. In the case of feeble infants, it sometimes happens, during the first six weeks, that sleep gains upon them after they have taken only a few mouthfuls. It is necessary under such cir-

cumstances to awaken them, in order that they may have enough nourishment.

An infant which has suckled continuously for fifteen minutes has made a good meal. It should then be interrupted.

The Influence of Mother's Food upon her Milk.

The diet has a great effect upon the nature and quantity of the milk secreted. A woman well nourished will have, other things being equal, better milk than one badly nourished. It does not follow, however, that the mother should force herself to partake of food in larger quantities and heavier in character than is ordinary with her. If her health remain good, and she simply follow her desires, and hold to her former habits at the table, her child will not suffer.

The mother should carefully avoid whatever she has ascertained by experience disagrees with her. Otherwise she may induce acidity of the milk, and disorder of the stomach and bowels of the nursling.

The Influence of the Monthly Sickness upon the Milk.

The mammary glands are more or less closely united in the bonds of sympathy with the uterine system. One would suppose, therefore, that the eruption of the menses would alter the character of the milk. Such is the case sometimes. It is not always so. Prof. Raciborski has carefully studied with the aid of the microscope the milk of nursing mothers during menstruation. He has not found any perceptible alteration. He concludes, therefore, saving only in exceptional cases, that the coming on of the monthly discharge ought not to deter the mother from continuing to nurse her child.

But nature herself would seem to guard against the occurrence of this function during lactation. Most women do not become unwell so long as they keep the child at the breast. In the largest proportion of the remainder, the sickness does not make its appearance before the seventh

month after childbirth. This fact would seem to point to some advantage accruing in the case of those who never become unwell while nursing. It is certainly greatly to be desired that the sickness shall not come on until after the period of weaning. Still, its earlier appearance is not, alone, a sufficient reason for premature weaning.

In some women the monthly periods are always associated with great constitutional disturbances, and disorders of the digestive apparatus and nervous system. Such perturbations in the system of the mother may cause attacks of colic and diarrhœa in the nursling.

The Influence of the Marital Relation on the Milk.

The exercise of the conjugal privilege affects, although it may be only momentarily, the breasts and their secretions. Most physicians agree that there is no danger to the nursing infant if temperance be observed.

Of course, husband and wife occupy separate apartments for at least four weeks after confinement. In the case of those with whom the menstrual function is in abeyance during the period of nursing, there is no risk of a second conception. When, on the contrary, the menses recur soon after the childbirth, the danger of another conception is of course encountered, although it is doubtless even then much less than at ordinary times.

We may conclude, therefore, that there is no reason, on account of the child, of insisting upon a total separation of the father and mother while it is being nursed. Indeed, there are physiological reasons which would render such an ascetic course as this wrong and injurious. If indulged with moderation, this passion does not markedly alter the properties of the milk. The only inconvenience attendant upon it is the risk to which it exposes the mother, if her periods have returned, of a second pregnancy. This suggests an inquiry into

The Influence of Pregnancy on the Milk.

If pregnancy fails to check or diminish the quantity of the milk, it will certainly deteriorate its quality.

The security which the fact of nursing gives to the mother, leads her frequently to overlook the first signs of a second pregnancy, which, in fact, are then more difficult of observation. It therefore happens, in many instances, that the child is nursed during several months of an unsuspected pregnancy. As a rule, so soon as the pregnancy is at all advanced, the effects of insufficiency and deterioration in the milk make themselves apparent in the child at the breast. Weaning should take place as quickly as the existence of a new pregnancy is observed A wet-nurse should be obtained, if the child be under six months, particularly if the weather be warm. In the latter case, also, it should be removed to the country.

The Influence of Emotion on the Milk.

The study of the influence of the mother's mind upon the child at her breast, is an interesting and most momentous one. It is impossible to insist too strongly upon the importance of preserving a condition of calmness and tranquillity during the whole continuance of nursing. But by what words can we hope to quiet a spirit strongly moved by fear, grief, or anxiety? As well may medicine attempt to minister to a mind diseased. Still, it is the duty of the physician, by grave and well-weighed representations, to point out the danger to which violent emotions in the mother expose the child. Every mother should know that the qualities of her milk are rapidly and seriously altered by lively mental emotions, in order that by foresight she may escape excitement, and by self-control she may calm herself when unavoidably subjected to it.

Medical books and journals relate many

well-authenticated instances of the sad effects upon the child of fright, anger, and other nervous emotions, through the changes to which these have led in the milk. In many cases even death has been the consequence.

Prof. Carpenter, of London, records in his "Physiology" two fatal cases. In one, the infant died instantly in its mother's arms, on being allowed to nurse, shortly after she had heard bad news. In the other case, the infant was seized with convulsions in the right side, and paralysis on the left, from the same cause.

In a late number of the "Journal of Psychological Medicine" we find recorded, by Prof. William A. Hammond, late Surgeon-General of the U. S. Army, a number of instances of serious disturbances, in the child, occasioned by this inexplicable change in the mother's milk through emotion.

"A soldier's wife, whilst nursing her child, was very much terrified by a sudden

thunder-storm, during which the house where she was then quartered was struck by lightning. The infant, which had always been in excellent health, was immediately attacked with vomiting and convulsions, from which it recovered with difficulty."

"A lady, three weeks after delivery, was attacked with puerperal insanity. She nursed her child but once after the occasion of the disease, and in two hours subsequently it was affected with general convulsions, from which it died during the night. Previous to this event it had been in robust health."

Such accidents may be prevented by permitting the loss of the milk shut up in the breast at the time of the emotional excitement, and by preventing the child from nursing until the mother is quite restored to her customary cheerfulness.

The famous physician Boërhaave states that an infant was attacked with convulsions after nursing from the breast of a woman who was intoxicated.

While nervous agitation will check or entirely arrest the flow of the milk, every mother knows the influence which often the sight of her babe, the idea of presenting it to her breast, and the joy she feels when she holds it there, will have upon the amount of the milk, entirely independent of her will. It flows into her breast even on the thought of her absent nursling. All these facts show to what an astonishing extent this secretion of milk, in reference both to quantity and quality, is under the control of the nervous system. We trust they will give point and emphasis to the cautions we have just penned.

Other Influences which Modify the Nature of the Milk.

From what we have already said it will be seen that the composition of the milk is very variable. We have passed in review a number of influences which affect it. Some others remain to be spoken of.

The Influence of the Constitution and Temperament.—A woman of feeble consti-

tution has generally milk deficient in fatty matter. One whose system is robust, on the contrary, has ordinarily milk rich in butter. The opposite condition of affairs sometimes prevails. One occasionally sees apparently feeble mothers with excellent milk, and others buoyant with health whose milk is impoverished.

That which is known as the *lymphatic* temperament coincides ordinarily with watery and non-nutritious milk. The color of the hair alone does not appear, contrary to what some have asserted, to be an indication either of the quantity or quality of the milk.

The Influence upon the Milk of its Retention in the Breasts.—It has been demonstrated that the longer the milk is retained in the breast, the more thin and watery it becomes. If one divides into three parts the product of one milking of a cow, so as to receive each successively in a different vessel, it will be found the portion first obtained is the poorest and most watery, the second is richer, and the third the best of all. It is

well, then, for every mother to know that her *milk will become more watery the longer it remains in the organ which forms it.* This knowledge is capable of useful practical application in the nourishment of the child. If, for instance, it be desirable, because of the too great richness of the mother's milk, to lessen the nourishment of the child, this can be readily accomplished by simply lengthening the intervals between nursings. By this course, the child, on the one hand, will have time to better digest its repasts, and, on the other, the longer sojourn of the milk in the breasts will enfeeble its consistence and richness. If the milk be poor and the child badly nourished, apply it oftener to the breast, and thus not only give it more but improve the quality of its food.

Means of Recognizing Changes in the Milk.

The microscope and skill in its use are indispensable for the accurate determination of many of the alterations in the milk. But this means is not, of course, at the dis-

posal of the mother. Can we not teach her how to obtain, proximately at least, some useful information on this point? We will try.

An old practice among physicians consists in placing a drop of the milk on the nail of the thumb, and then turning it so as to face downwards. The drop of milk is thus suspended. If it remains adherent, then the milk contains a considerable quantity of nutritive elements. If it, on the contrary, quickly falls, then the milk is serous and of poor quality.

The simple inspection of a certain quantity of milk drawn into a glass will also enable an estimate to be formed as to its quality. There are also several chemical processes, which require delicate management and more knowledge of chemistry than the mother usually possesses. We therefore pass them over.

One of the best procedures, worth all the others, is an examination of the infant. If it be well nourished, it is because the milk is sufficient in quantity and of good quality.

If it be badly nourished, it is nearly always because the milk is faulty.

Too Much or Too Little Milk.

The mother may suffer from an over-abundance of this secretion, or she may have an insufficient amount for the need of her infant.

An *excessive amount* of milk may be caused by over-nursing, by bleeding piles, by the too frequent or too prolonged occurrence of the monthly sicknesses, and by any excitement of the uterine system. This condition is not merely an inconvenience to the mother. It injures the child, because of the impoverished state of the milk which always exists. The employment of preparations of iron is useful. A pill consisting of two grains of pulverized iron (reduced iron) three times a day will be productive of great benefit. The advice of the physician should be sought before the health of the child begins to suffer.

Scantiness of milk is an effect of general

debility, of indigestion, and the want of proper food, of advancing years, and of frequent long separation from the child. The cause should be removed, if possible; the child should be put frequently to the breast, and a generous diet insisted upon. There are special remedies, and courses of treatment, which increase the flow of milk. These should be left, however, in the hands of the family physician, who can best employ them.

At what Age may the Child have other Food than Milk?

Not before the end of the fourth or the commencement of the fifth month. Mothers are usually too much in the hurry to give it paps, teas, panadas, etc. If the mother be a good nurse, she should furnish sufficient milk for the first four or five months. Her milk will be enough for the child, without the aid of any outside meals, excepting, perhaps, the milk and water, of which we have spoken, in the middle of the

night. Of course, if the infant be feeble and delicate, or if the milk be insufficient in quantity or wanting in richness, it will be necessary to supplement the natural food with artificial.

The Food Proper for Infants.

A slow and regular progression in the character of the child's food should be the rule. Any sudden changes in diet are liable to derange the stomach. No artificial food should be allowed before the fourth or fifth month, as we have just stated. At this time, however, the use may be begun of dilute cow's milk, and of paps. An excellent preparation may be made by adding to a tumbler one-third full of water a teaspoonful of sugar of milk, and then filling the tumbler until it is two-thirds full with fresh cow's milk. The addition of two teaspoonfuls of lime-water is useful, if the child have a sour stomach or green stools. Paps made with cow's milk and wheaten flour, or arrowroot, may next be

allowed. At six months of age, tapioca and animal broths are proper, once or twice during the day. At twelve months, eggs may first be permitted, and then any sort of easily-digested solid food.

At what Age should the Child be Weaned?

By commencing at the fifth month to gradually accustom the infant to artificial food, in the manner just mentioned, it may be weaned about the twelfth or thirteenth month. If there be a sufficient amount of milk, and the health of mother and child be vigorous, nursing may be prolonged to the fifteenth or sixteenth month, but it can rarely be continued longer with safety for either.

City infants should not be weaned during the summer months. If, for any reason, the mother is obliged to cease nursing in hot weather, either the child must be sent into the country or a wet-nurse procured.

The Food of the Cpild after Weaning.

After the child is weaned, its diet ought to approach more closely to that of ordinary life; it may eat at the family table, avoiding highly flavored dishes, pastry, stimulants, and coffee. It should be encouraged to drink freely of milk at all its meals.

The prejudice against sugar is unfounded. It is a useful article of diet. Even when taken in excess, the only disadvantage is a loss of appetite for a little while.

The Number and Order of its Meals.—For the instruction of inexperienced mothers, we will give a bill of fare, which may serve as a model to be followed, more or less closely, according to circumstances.

Children should make their first repast as soon as they rise in the morning. It ought to consist of broth, or milk gruel, with bread. This breakfast should be taken about seven or eight o'clock in the morning; during the summer, an hour earlier. About ten o'clock a piece of bread and butter will make a healthful lunch. Towards mid-day

a second meal is necessary. It should consist of soup, with a small quantity of meat, such as mutton-chop, veal-cutlet, chicken, roast beef, etc. Potatoes, well cooked, and a very small amount of green vegetables, may be added, together with a light pudding. In the middle of the afternoon, some bread and milk, or bread and butter, with fresh ripe fruit, when in season, should be eaten. This repast may be taken out of doors. In the early evening, the last meal of the day had better consist of only bread and milk.

But it is not alone necessary that the hours for the meals be regulated. It is of the utmost importance that the food be given in proper quantity, and of proper quality—that is to say, it ought to be well prepared, and fresh, and the meats juicy, not dried in cooking. A portion of meat should make part of each day's food, and not be omitted, under the pretext that vegetables will suffice for the nourishment of the child.

THE HYGIENE OF THE INFANT BEFORE WEANING.

We have hitherto only spoken of the infant's diet. We have confined ourselves to directions as to nursing and feeding by hand. But these are not the only cares which the child requires for the preservation of its health. The air it breathes, the light and the sounds which surround it, and its temperature, are all agents which influence it for good or evil. We will briefly state some of the more important hygienic precepts of early infancy.

The Air it Breathes.

Dr. Fonssagrives, the well-known professor of hygiene at Montpellier, has aptly said: "A piece of brown bread steeped in pure air, makes more blood than a beefsteak eaten in a close room." Open, then,

the window of the chamber occupied by the little one, and let the fresh air from without expel that which has already been breathed, and which is no longer fit for respiration. There is no danger in thus renewing the atmosphere of the apartment. It is only on exposure to currents of air that the child will take cold. From these it can readily be protected. A child can no more grow without fresh air than a plant. At the same time, ordinary prudence must be exercised in ventilation. On a rainy day, for instance, the window should not be opened; and during the earlier hours of the morning, and the late hours of the evening, it will be more prudent to keep it closed.

The importance of carrying the infant daily in the open air, when the weather is favorable, cannot be too much insisted upon. There are few mothers who take their children as much in the open air as they ought, in order to secure for them a vigorous constitution, and robust health. During the summer, little children should

remain out of doors during nearly the whole day, from the time of rising until the hour for retiring. The practice of carrying the infant out for a promenade, of at least an hour or two, near the middle of the day, should be begun a few days after birth in the summer-time, and not postponed longer than two or three months after birth in the winter. Not a single pleasant day, in the whole year, should be allowed to pass without this walk in the open air. There is no direction which we can give for the care of the health in infancy of greater value than this. If the head and limbs of the child be properly covered, it will not take cold, even although the air be cool. Exposure to a damp atmosphere ought to be avoided, however.

The action of intense cold upon the infant is very hurtful. A child born in the winter-time should not, therefore, be carried out until it is several months old, as we have just stated. Nor should it be long exposed to a freezing atmosphere, even although well dressed. It ought to take

the air during the sunny days of winter, but the promenade must then be a short one. It is to be borne in mind that young infants frequently suffer from the cold without showing at the time any sign of suffering. It is not until they are a year and a half or two years of age, that they complain and cry when cold. Therefore, even although well clothed, it is prudent not to keep them too long in a freezing atmosphere.

Its Light.

The light of the sun is indispensable to the new-born. In the dark the infant becomes pale and thin. During the first few weeks of early infancy, the eyes require to be protected from the direct rays of the sun, or of the gas-light. The first week of its life should be mainly passed in a half-darkened room. In a little while its eyes will become accustomed to the light, which should then be freely admitted into the apartment.

Its Temperature.

The young infant has need of a warm atmosphere. Its animal heat is generated with difficulty; it must, therefore, be carefully preserved by artificial means.

Sudden changes of temperature are, in particular, very injurious. The passage of the child from a warm room to a cold one, or from a heated house to the cold outer air, may be attended with serious consequences, if it be not well protected. A transition of the kind, which a grown person would resist without injury, might readily prove fatal to an infant, whose powers of resistance to cold, we repeat, are very feeble.

Nevertheless, there may be an excess of precaution to avoid taking cold. The natural feebleness, of which we have spoken, may be increased by rooms too warm and clothing too heavy.

Its Sleep.

Calm and regular sleep is an indication of health. The infant whose sleep is disturbed, is certainly not well. In health, it passes the greater portion of the twenty-four hours in its bed. It ought never to be awakened. It is a good habit to place it in bed so soon as it has nursed, and never to accustom it to be put to sleep in the arms. Otherwise it will soon learn, when it awakes in the night, to insist upon being carried, and will not be quieted until its tyrannical demands are complied with.

When the infant is asleep, it is well not to make too much noise in the chamber it occupies. Still, it is not necessary to remain immovable, and preserve an absolute silence. The child sleeps very well in the midst of some noise and movement, provided they do not pass beyond a reasonable limit.

As the child becomes older, the hours between its naps during the day may be increased. It should, however, have at

least twelve hours' sleep at night, and a noon nap of an hour or two, until six years of age.

The Clothing it Wears.

We have spoken of the susceptibility of the infant to the effects of cold. There is an erroneous notion, which unfortunately is too widely spread, that it is well "to harden" the child, by exposing its neck and limbs to the air. In our climate, there is no practice more dangerous. More children sicken and die because of insufficient clothing than is generally supposed. No matter what the fashion of the dress may be, let every mother see to it that her child is more warmly clad than herself, and not less so, as is so frequently the case. Again, we repeat, in this connection, a child cannot resist cold as well as an adult.

WHAT THE MOTHER SHOULD DO IN SLIGHT ACCIDENTS.

Mothers are often embarrassed as to the proper treatment for a trivial accident, such as a fall, a blow, a light wound, a burn, etc., to which little children are so often exposed. It will, therefore, be useful to lay down some rules for their guidance in these common and simple hurts of childhood. If an accident seems grave, or gives rise to anxiety, the most prudent course is to seek the skill of the family physician; but, while awaiting his arrival, there are many useful precautions which can be taken, and many light injuries demand no other care than it is in the power of the intelligent mother to afford.

Accidents which do not Require the Physician's Care.

We will first consider the duty of the mother, in relieving those slight injuries

which, while they inspire no fear, and do not ordinarily demand the care of the doctor, call for some attention on her part.

Most of the falls to which young children are liable, in walking or running about the floor, are of this harmless character. They ordinarily give rise merely to a little pain, or, it may be, to a small swelling, or a black and blue spot. All that is necessary to do in such instances is to avoid frightening the little one by an expression of its own terror, and thus leading it to complain beyond measure, or making it too timid. So soon as the mother has assured herself, with calmness, that nothing serious has resulted, she should place the child upon its feet, dry its tears, and induce it to resume its play. The child will thus be taught to support, with fortitude, a little pain, and the accident will serve to make it more cautious and adroit in the future. Is it necessary to add that it is absurd to seek to quiet the child by striking the furniture or floor against which it has struck itself?

This only inculcates an idea of vengeance, as foolish as unjust.

Small Wounds and Cuts.—Children frequently inflict upon themselves superficial cuts by means of knives, or some other cutting or pointed instruments, in spite of all care which can be taken. In cases of such wounds, which are without danger, as they merely divide the skin, no lively emotion should be manifested at the sight of a little blood. If the mother endeavors to show coolness on these occasions, if even she tries to profit by similar accidents in order in a measure to familiarize the child with them, she will teach it self-reliance, and enable it, in after-life, to afford useful aid in the misfortunes of others.

The Dressing of Small Wounds.—All that it is necessary to do, in case of wounds of this sort, is to wash the cut with some fresh water, and to bring the edges carefully together, and retain them by means of isinglass or adhesive plaster.

MEANS OF QUIETING CHILDREN AND CHECKING THEIR BURSTS OF PASSION.—If the little one manifests nervous agitation, from no assignable cause, it is well to cause it to drink a little cool water, or even to sprinkle its face with the water, throwing it with some force, and without fear of doing any harm. This means is a very effectual one in calming the attacks of anger to which some infants are subject, and is far preferable to the ordinary efforts made in these cases, such as menaces, and other signs of impatience, which only prolong the irritation of the child.

BURNS AND SCALDS.—Among the common accidents of childhood, burns are the most serious. However trifling they may be, the pain which they occasion is, for a while, very lively. They are apt, also, to permanently injure the part, or to imperil life itself. This danger exists only when they are extended, although not deep; or when they have penetrated deeply, even although they occupy a small surface.

When both deep and broad, the danger is, of course, much greater, and the accident then demands the most prompt and skilful medical aid which can be procured.

THE IMMEDIATE DRESSING OF BURNS AND SCALDS.—In slight cases, when the skin is merely reddened, and *not broken*, immediate relief will be afforded by the application of a mixture of equal parts of *creasote-water* (which may be obtained from any druggist) and common water. This should be brushed over the part by means of a camel's-hair brush. This treatment is only proper when the skin is unbroken; in such cases, the relief to the pain is instantaneous and permanent.

In the more simple forms of burns and scalds, covering the surface with glycerine is often very beneficial. The application of carded cotton, and the dusting of the surface with flour, are both safe and very advantageous methods of treatment, to be resorted to while awaiting the arrival of the physician, who should always be summoned

if the skin be broken, or if the injury be diffused over a large surface.

THE FIRST CARES IN GRAVE FALLS, DISLOCATIONS, AND FRACTURES.—If the child falls from an elevated height, if some joint is displaced, a limb broken, or the skin and flesh deeply cut, it should be placed in a bed, while awaiting medical assistance. If blood be flowing with abundance from a wound, in consequence of the rupture of some vessel, the bleeding should be arrested as soon as possible, either by compressing the part with the fingers or the hand, or by bringing the edges of the wound together by means of a bandage.

These are the principal domestic remedies which can be employed in cases of accidents to children. If more be required, medical aid had better be called in, for the case is beyond the province of domestic surgery.

THE RÔLE OF THE MOTHER IN THE DISEASES OF CHILDHOOD.

While it is of the utmost importance, when infants are seriously ill, to call in the best medical advice, it is of equal moment that the mother should have correct ideas of her duties toward her sick child, as well as of the necessity for the prompt aid of the physician. She should also be armed with such precise and plain information as will enable her to second the efforts of the family physician. The parts of the physician and the mother are and always will remain distinct. The doctor prescribes, the mother performs, and she follows directions badly or well just in proportion as she comprehends their value.

In medical works devoted to the diseases of children, the writers carefully calculate the favorable and unfavorable changes in

each affection, they weigh the influencing circumstances of constitution, temperament, medicines, etc., but they often scarcely think to consider the great value of the mother's care. The bed of a sick child guarded by an intelligent and instructed mother, is doubly defended. It is generally believed that the physician alone bears the responsibility of treatment. This is a grave error. The mother shares this responsibility, she contributes largely both to success and failure.

Useless and Dangerous Medicines for Children.

A useless remedy is in effect a dangerous one, as, because of its supposed harmless character, it is abused, and in this manner either valuable time is lost or a bad habit formed by its constant employment, not to be broken without injury.

There are two kinds of useless remedies daily employed in family practice in this

country. The first are *preventive* remedies, the second are those reputed *necessary*.

To treat a disease by medicine before its appearance is the height of absurdity. Yet we constantly find, in domestic practice, purgatives, emetics, and alteratives administered to children at certain seasons of the year, to prevent sickness. Happily the old habit of bleeding every member of the family in the spring of each year has fallen into disuse. Would that other precautionary methods of treatment equally worthless had shared the same fate. By proper precautions in diet and the sanitary regulations of daily life, health may be preserved; but attempts to avert disease by medication are as futile as hurtful.

As for the many remedies which are popularly supposed to be *necessary* for children, they should only be given when the necessity is *proved*, not when it is *supposed*, to exist.

Mothers should know that an insignificant or harmless medicine may be as dangerous, when given at the commence-

ment of an illness, as the most powerful wrongly administered remedy, and this for the simple reason that its use inspires a false security, and causes the loss of precious time. If time be money, it is also sometimes health, and even life, and it is folly to waste it in either case.

There is much difference between a medicine and a remedy. Of this difference most mothers appear to be ignorant. A medicine is neither good nor bad in itself; it is good when it is given in proper doses, and on the right occasions; bad when it is administered in wrong amounts, or inopportunely.

Besides the useless and insignificant preparations with which infants are dosed in family practice, there are certain remedies which are highly dangerous, and may produce immediately serious results. Mothers should know these drugs, in order to rigidly exclude them from their families.

First among these dangerous remedies, we will instance *opium*, and the various preparations which contain it. The ex-

treme susceptibility of young children to the action of this substance is a fact well known to physicians. Many refuse to prescribe it, even though they have the opportunity and skill for carefully watching its effects. A single drop of laudanum has been known to destroy the life of an infant at the breast. It is necessary, also, to be careful of the use of this drug in external applications, for it is readily absorbed by the delicate skin of a child, and may thus occasion alarming, or even fatal, narcotism. The various "soothing syrups," sold so largely in the market, contain opium. Their employment has much to do in increasing the ailments and mortality of infant life. A mother who gives, or permits to be given to her little one, an opiated preparation, in order to check its cries, places its life in peril.

Powders, ointments, pomades, and washes, prepared from secret formulæ, and advertised by charlatans, may, at any moment, produce grave skin affections, or even fatal poisoning. The records of medical science

afford numerous examples of the sad effects following their use. There are also many

Injurious Medicated Soaps

For sale at the drug stores, done up in attractive wrappings, which are more or less dangerous, particularly when applied to the delicate skin of a young infant. As soaps are constantly employed in the infant's toilet, a few words of caution, in regard to those which are hurtful, will not be without use. Drs. Brinton and Napheys, of Philadelphia, in their work upon "The Laws of Health in their Relation to the Human Form," give the following advice on this subject:—

"Soap and water is the burden of the song of most writers on health. We grant the water, but are by no means so enthusiastic about the soap. Many a lady" (and, we may add, many a child) "will find her skin softer, whiter, and healthier by omitting it altogether. The reason is the difficulty in obtaining a perfectly 'neutral' soap,

that is, one that contains no excess of alkali, and one that has in it no rancid fat-globules, injurious oil, or coloring matter, or irritating foreign substance.

"No one needs to be informed that soaps are made by the action of a powerful alkali, caustic soda or caustic potash usually, on fat. The cheapest, and consequently the almost universal method, is to do this in the 'cold way,' instead of by the old process of boiling and 'salting out.' Unfortunately, the cold way is one of those 'cheap and nasty' methods which Carlyle says are becoming daily more popular with this degenerate age. All soap made thus contains an excess of alkali, and particles of fat not saponified. Both these ingredients are harmful to the skin, leaving it rough, tender, and apt to pimple. It is much better to use no soap at all, than one which has these injurious qualities.

"Toilet soaps should be prepared from clean, sweet tallow, or oil, by a strong solution of soda, and it is essential that they be completely deprived of an excess

of alkali. Their natural color is always a yellow or white, and whatever other hue is given them, is artificially done by the admixture of coloring matter. Brown Windsor is colored by caramel or cocoa; rose color is produced by cinnabar; green by chrome green, and many of the reds by aniline colors. These latter are derived from the distillation of coal oil, and some of them, the fashionable coralline for example, are exceedingly irritating to the skin of many persons, so they should be employed with caution. The dark lines in Castile soaps are produced by a preparation of iron, which is harmless. Any desired perfume can be imparted to soaps, and so long as this is done by the natural odorous portions of the plants, there is no cause of complaint. But most of the toilet soaps sold are perfumed by the artificial essences derived from fusel oil and petroleum, the effects of which, upon a delicate skin, are occasionally acrid and unpleasant."

The Diseases of the Child while Teething.

The germs of the teeth exist four months before birth; they develop themselves silently during the first seven or eight months of life. At this epoch the earliest teeth make their appearance in successive groups, which follow each other until the age of two years or two years and a half. The child has then twenty teeth, and its first dentition is finished. After a time of repose, of varying length, which scarcely ever exceeds two years, the teething process re-commences, and the four first large molars make their appearance. The child's mouth is then furnished with twenty-four teeth. From the sixth to the seventh year the temporary teeth are replaced by the permanent. Now also the four second large molars begin their growth, which is completed before the twelfth or fourteenth year. The third and last teething occurs somewheres between the eighteenth and twenty-fifth years; it consists in the appear-

ance of the four last molars, or the "wisdom teeth," as they are commonly termed.

The process of teething may therefore be divided as follows:—

1st. *The first or the Milk Teeth.*—These begin to appear between the fifth and eighth month, and are completed between the twenty-fourth and the thirtieth month. They ordinarily show themselves in the following order:—

a. The two middle front teeth of the lower jaw.

b. The two middle front teeth of the upper jaw.

c. The side front teeth of the upper and lower jaws.

d. The first small molars.

e. The canines.

f. The second small molars.

g. The first large molars, which appear between the fourth and fifth year.

2d. *The Second or Permanent Teeth.*—These first show themselves at about the age of six or seven years. They push out and replace the milk teeth completely before

the fourteenth or fifteenth year. The first large molars which appeared between the fourth and fifth year remain, and four more large molars are added to them, making now twenty-eight teeth in all.

3d. *The Third or Wisdom Teeth.*—These consist of four large molars, which appear after the eighteenth year, rarely later than the twenty-fifth. The whole process of teething is now finished; each jaw has its sixteen teeth, making thirty-two in all.

The teeth appear always in groups. This fact is an important one for mothers to know, because there is between them an interval of repose of greater or less length. Thus there is between the appearance of the first infantile molars and the canines an interval of several months, which period is extremely favorable to weaning. As far as possible, infants should be weaned before they have twelve teeth. This period of rest in teething ought therefore to be seized upon as the appropriate one, other things being equal, for weaning, in order that the troubles incident to teething may not be

added to the disorders sometimes occasioned by the removal of the mother's milk.

We desire also to call the attention of mothers to the appearance of the first large molar at the age of the fourth or fifth year. Many of the mysterious ailments of childhood at this age are due to the cutting of these teeth. This cause of illness is too generally overlooked both by physicians and mothers. Many nervous affections, loss of flesh, and symptoms threatening some disease of the brain, are simply the effects of this unnoticed process.

When the cutting of the teeth is not in itself a cause of illness, it often places the health in a delicate condition and renders it liable to impairment. The child which is cutting its teeth, above all in the large cities, is a sick child, or at least an invalid, and in either case demands careful attention.

The teeth are capable of producing the most singular and the gravest affections to which childhood is subject. While, how-

ever, this is the case, the number of diseases falsely imputed to them is incalculable. There results from this often loss of time and the prescription of useless or even hurtful remedies. The teeth may occasion wasting in children, may cause a cough, a diarrhœa, or convulsions. But all these affections may arise from very different causes. Hence the need of medical intervention in cases at all serious, in order that these nice and difficult distinctions may be made.

Remedies for the troubles of Teething occupy a prominent place in domestic pharmacy. Many mothers spend upon them much time and money, and call in, too late, the family physician. They have a remedy which prevents pain, another which prevents fits, a third which will bring forward tardy teeth. The best remedy, when everything goes ordinarily well, is a well-chosen coral, aided by well-practised frictions on the gums with the fingers; when there is any unusual trouble, recourse should be had to the physician. No mother should ever

permit to run on unchecked an attack of diarrhœa occurring during teething. As for fever, loss of flesh, cough, etc., these symptoms demand, of course, immediate and intelligent care.

THE SCROFULOUS CONSTITUTION.

The *signs* of the presence of the scrofulous taint in the system of a child are generally these. hair and complexion, light; skin, coarse and wanting in clearness; expression, heavy and dull; cheeks, full, rather flabby, and with a tendency to too much color; lips, particularly the upper one, thick; teeth, white, but quickly decaying; eyes, large and pale, often weak and inflamed; nostrils, open, and frequently a discharge from the nose; belly, full and hard; kernels in the neck; the whole body gross, and the flesh soft and cold.

The *prevention* of this disease, so common in our country, is a matter in which many parents are interested. There are four important considerations in this connection, two of them relating to the parents, and two to the children.

The first is a point upon which we have dwelt before, in the interest of infantile health, namely, the value of well-assorted marriages—that is, the union of those with unimpaired health and strength. In the second place, if either parent be affected with a scrofulous or consumptive predisposition, the utmost care should be exercised by the mother during the whole period of pregnancy. She should avoid heated rooms, be warmly clad, take proper exercise, forego late hours and fashionable pleasures, and heed the other precepts in relation to the care of her health, during this time, which we have laid down in treating of Pregnancy.

In regard to the child, every attention should be paid to its food, air, clothing, etc., with the view of maintaining its health, and repressing the hereditary tendency to disease. Dr. Paris has strongly recommended milk impregnated with the fat of mutton-suet. This he directs to be prepared by inclosing some suet in a muslin bag, and simmering it with the milk.

Lastly, in all cases, badly ventilated and damp houses must be avoided, as well as localities which are unhealthy.

The *treatment* of scrofula, although less satisfactory than its prevention, often determines by its wisdom or folly the future of the child. In former times, many superstitious notions prevailed, which led to the use of silly and hurtful remedies. For instance, the touch of the dead felon's hand, the drinking out of human skulls, the pilgrimages to sacred places, the royal touch —all these, and many equally foolish practices, were in more or less repute as possessing curative powers.

There are two agents which, in our time, are chiefly relied upon for the cure of this disease. One is *iodine*, which is used both externally and internally. A good iodine paint, for swollen glands, is the following:—

Take of—

Iodine	30 grains,
Iodide of potassium . .	15 grains,
Alcohol	1 ounce.

Mix.

Apply by means of a camel's-hair brush over the swollen glands.

Or an ointment may be used, as follows:—

Take of—

Ointment of iodine . . 1 drachm,
Lard . . . . . 2 drachms.

Mix.

To be rubbed over the enlarged scrofulous glands.

Internally, iodine is looked upon by some as little short of a specific. It has certainly, in many cases, an effect which is all that could be desired. The following recipes will be found valuable:—

Take of—

Iodide of potassium . . 6 grains,
Syrup of orange-peel . . ½ ounce,
Water . . . . . 1½ ounce.

Mix.

Dose, for an infant six months old, a teaspoonful three times a day.

Take of—

Iodide of potassium . . 16 grains,
Syrup of sarsaparilla . . 1 ounce,
Simple syrup . . . . . 1 ounce.

Mix.

To a child three years old give a teaspoonful three times a day.

The use of mineral waters, and of baths containing iodine, is also of great service.

Cod-liver oil is the second remedy to which we referred. It does good by increasing the flesh and strength of the child. Its use, in order to be beneficial, must be continued a long time. A small dose only should be given at first, say half a teaspoonful three times a day. This may be gradually increased to a teaspoonful, and finally to a dessertspoonful, three times a day. It is not often worth while to increase the dose beyond this for a child. Children soon learn to like the oil. In cases, however, in which the stomach will not bear the oil, it may be administered through the skin. Rub each night a couple of tablespoonfuls into the skin of the abdomen. The addition of a few drops of oil of cajeput will disguise the disagreeable odor.

PART IV.

Woman in Disease.

It is a matter of common observation, that American women are subject to a crowd of affections peculiar to their sex. In this country, female diseases are more general than in any other. This is not due to climatic influence at all. That there is nothing in the air, water, and food of our land, which predisposes the gentler sex to disease, is shown by the condition of the Indian squaws and southern negresses. In the Indian and negro races, we find the women as powerful, as capable of endurance, and as free from any chronic disease, as the men. It is only in the more refined society of our own race that we notice their predilection to sickness and feeble health. It

would seem as if the habits of civilized life had a great deal to do with this much to be regretted invalidism. Let us, therefore, before treating in detail of the principal female diseases, consider some of their main causes, and point out the means of prevention.

The Causes of Disease in Woman.

The principal influences at work, in bringing about the ills peculiar to woman, may be enumerated as follows: folly in dress, neglect of exercise and fresh air, improper nervous excitement, imprudences during the monthly periods, production of abortion, and want of care after childbirth.

Folly in Dress.—We have already pointed out, at length, the evil effects of tight-lacing. To the abuse of the corset is to be traced much of the womb disease so prevalent at the present time. These ill effects are increased by dancing in the tightened compress, and subsequent exposure to the chilling air of a winter's night. Season

after season such imprudences are repeated, until disease or age forever stops what the dictates of prudence should have long before checked. The lower limbs are, as a rule, improperly clad. Thin cotton cloth affords but slight protection against damp and cold.

Neglect of Exercise and Fresh Air.—In America it is not fashionable for ladies to row, bowl, ride, or walk much. All active exercise is considered unfeminine, and injurious to that delicacy of the complexion and figure so much desired. In Europe, on the contrary, ladies are encouraged to participate in most of the out-door sports calculated to increase muscular power and offer a healthful diversion to mind and body. The result is seen in the ruddier look of the young, and the better preserved comeliness of the old. American ladies attract the attention of foreigners quite as much by their apparent delicacy of health as by their acknowledged beauty. With more air and more exercise, much of the

former would be dissipated, while the latter would be heightened.

Improper Nervous Excitement.—Undue stimulus is applied to the nervous system even during the days of girlhood. The minds of young girls are taxed by tasks too prolonged and too difficult, their ambition is aroused by the emulation excited by competitive examinations, and their powers overstrained under the plaudits of injudicious friends. This training may, indeed, produce brilliant talents and cultivated tastes, but these qualities, too early developed, are purchased at the expense of a nervous system morbidly sensitive, and a physical organization peculiarly liable to the diseases of which we are about to speak.

Imprudences during the Monthly Periods.—Ignorance, carelessness, or stern necessity leads many women, during their periods, to expose themselves, when insufficiently clad, to cold and damp weather. Inflammation and pain, often obstinate, sometimes incurable, are the consequences.

At this time of the month, of all others,

the body should be warmly covered, kept at rest, and sheltered from any inclemency of the weather. There are few women so situated that they cannot care for themselves during their monthly illnesses, but there are many who disregard the warnings of common sense and experience, in the pursuit of pleasure or profit. If our words can do aught to impress upon such the folly and danger of imprudences during menstruation, we shall have done much towards preventing disease.

The Production of Abortion.—We have already emphasized the criminality of destroying the product of conception before maturity. We speak of it now, not as a crime, but as a cause of disease. She who conspires against the life of her unborn child, risks her own health; in striking at its existence, she wounds herself. Criminal abortion is the cause of a vast amount of severe, painful, and unyielding disease. In all classes of society, its effects are unfortunately too frequently observed by physicians.

Want of Care after Childbirth.—Most women get about too soon after confinement. In so doing, they expose themselves to many risks. If the usual occupations are resumed while the cleansings are yet present, they will be probably checked, and mischief will result. Besides, the womb remains very heavy for about six weeks after the birth of the child. If the mother be about, standing and walking, she runs the danger of displacing that organ. A large proportion of the displacements of the womb, so difficult entirely to remedy, are caused in this way. The parts from which the child has been lately expelled, remain for a number of weeks very sensitive to cold or moisture. Ignorance or disregard of this fact may occasion severe and even fatal inflammation.

The Prevention of Disease in Woman.

Providence never designed that women should suffer, to the extent they do, from diseases peculiar to their sex. There is

nothing inherent in the female constitution, which causes the undue amount of physical misery now so common. Most of the affections, under which the maids, wives, and mothers of our country and age labor, are preventable. They originate in ignorance or imprudence. This is true of two-thirds of all the cases.

We see constantly about us the results of inheritance, and of the want of proper care during infancy and girlhood; every physician knows how frequently the monthly periods are recklessly interfered with, how imprudently marriages are contracted, how commonly miscarriages and abortions are made light of, and how difficult it is to induce the mother to confine herself to her bed and room sufficiently long after confinement. Is it to be wondered at, therefore, that so many suffer from the various forms of womb disease?

Before entering upon the treatment of some of the principal complaints to which women are liable, we will point out a number of measures which, if carried out, will

go far towards preventing many of these affections, and their sad consequences, in loss of health and happiness. First, we will mention

Systematic Health Culture.—By this we mean a regular and judicious system of physical education from the period of infancy. It is easy to point out many injurious customs which yet prevail in regard to the conduct of girlhood. We imitate, to a certain extent, the Chinese and our own aboriginal Indians, in the treatment of our daughters. The feet of a fashionable American young lady are nearly as cramped and deformed as those of any of the belles of China. Do not mothers often insist upon compressing the waist out of shape, and proper size, for fear the girl may be clumsy? In what respect is this practice more creditable than that of the red-skinned matron, who alters the form nature has given to her child's head? In none is it less hurtful. We have never heard that the mental faculties were injured by distorting the bones of the skull

by means of gradual bandaging. The evil effects of tight-lacing are only too familiar in our professional experience. Again, is the custom altogether unknown, of preventing the full development of the body and limbs of girls, lest they should become ungenteel, or of confining them to the house, lest their complexions should suffer by exposure to the air and sunlight? There is no reason why girls should not ride and wim as often and as well as boys. Both exercises are beneficial, and, if indulged in at proper seasons, as free from injury to one sex as the other.

Precautions during the Monthly Periods.—By careful management at these times, very much may be done towards averting disease. A great amount of harm is consequent on the habit of looking lightly upon the monthly sicknesses, regarding them as the expressions of a natural function requiring no oversight or thought. As a consequence, we find that those who have little or no pain impose upon themselves no restraints whatever; while those who

suffer acutely, regard this suffering as unavoidable, and without the control of medicine and hygiene.

We cannot too emphatically urge the importance of regarding these monthly returns as periods of ill health, as days when the ordinary occupations are to be suspended or modified. This rule holds good in all classes of society. Long walks, dancing, shopping, riding, and parties should be avoided at this time of the month invariably and under all circumstances. Inasmuch as cold applications usually check the flow, and may give rise to serious disease, women ought to avoid exposure to wet weather, to cold draughts of air, to damp clothing, and to the chilling influence of iced drinks, while sick. During this time, also, all medicines that are being taken should, unless otherwise specially ordered by the physician, be stopped. A slight purgative just before the expected illness is often of benefit, but the too frequent use of purgatives may do much mischief. If the flow become too abun-

dant, the patient should confine herself for most of the day to a sofa or lounge, and take but little fluid. If, on the contrary, it stops too soon, a brisk walk, a hot drink, or a warm foot-bath, will be of service. If the periods be habitually painful, profuse, or scanty, the treatment we shall shortly lay down for these troubles should be heeded.

Another reason why every woman should look upon herself as an invalid once a month, is that the monthly flow aggravates any existing affection of the womb, and readily rekindles the expiring flame of disease. To the imprudences of patients, at this time, are to be attributed the relapses which retard their recovery. Most patients give up treatment before they are quite cured of a womb complaint, on account of the expense. They then resume their usual mode of life, act in a culpable manner at the menstrual epochs, renew their trouble, and blame their medical attendant for the effects of their own folly.

A well-assorted Marriage.—We have already spoken of the good effect, upon

female health, of a judicious marriage. Weakness, not dependent upon organic disease, under its influence often quickly disappears; monthly periods, previously deranged, become normal; and the general condition improves.

Marriage has this salutary influence only when well ordered; if contracted too early or too late in life, it may prove injurious to the health.

Pregnancy is also a preservative of female health. It is only a miscarriage, or a bad confinement, that is productive of injury. Many serious diseases of the womb arise from abortion; many others, from the want of proper care after confinement. But it must be recollected that conception and child-birth are natural functions, and cannot, in themselves, be hurtful. The accidents which may attend them are the cause of mischief. But these accidents are avoidable, as a rule. A woman who has passed successfully through a pregnancy, and nursed her child, has not thereby weakened,

on the contrary, she has strengthened all her powers. Child-bearing, if not excessive, preserves health and prolongs life. It may, therefore, properly find a place here among the preventives of disease in woman.

PAINFUL PERIODS.

The monthly periods should be attended with little or no suffering, merely slight pains in the back and loins, a feeling of fulness in the lower part of the body, and an inclination to languor. When the pain is great, out of proportion to the occasion, the patient has a disease known to physicians under the name of dysmenorrhœa—a term formed from three Greek words, δυς, "difficult," μην, "a month," and ρεω, "I flow," and meaning therefore difficult, laborious, or painful menstruation.

Different Forms of the Affection.—The excessive pain may be due either to neuralgia of the parts, to congestion, or inflammation, or to some obstruction in the natural outlet to the monthly flow. In order that we may have a better understanding of this disease we must consider

each of these forms separately, for their symptoms, causes, and treatment vary.

Painful Periods due to Neuralgia.

The pain, in this form of the affection, is unconnected with any actual disease or change in the structure of the parts. The whole trouble lies in a deranged condition of the nerves. Each month, previous to the appearance of the flow, the bloodvessels are filled to distension, and press upon the filaments of the nerves, which, being sensitive in their disordered condition, feel acutely this pressure. Hence, we have the pain. The nerves alone are at fault, and the disease is, therefore, said to be neuralgic.

The *causes* must be looked for among the various influences which affect the nervous system. Whatever tends to produce neuralgic pain elsewhere, will produce it here, in those liable to the complaint. Green sickness and deterioration of the blood from insufficient or improper nourishment; an

idle life, and excessive indulgence in the pleasures of the table; exposure to the air of a fever and ague country; gout and rheumatism; excesses of all kinds; over-excitement and fatigue, are all agencies which may occasion neuralgia of the monthly periods.

The *symptoms* are reducible to one, pain. This pain precedes and ushers in, as it were, the flow. It is the dread announcement of the coming sickness, and the forerunner of days of torture. In some cases, the pain ceases so soon as the flow is established; ordinarily, it continues during the whole period, varying in intensity from time to time. The seat of the pain is usually in the loins. Sometimes it is located at some distant part of the body; for instance, it may be situated in a finger, or, as in one instance on record, at the root of the nose, where it continued during the whole duration of each monthly flow.

The *treatment* of painful periods due to neuralgia, depends, to a great extent, upon the cause which is at work. The first aim

should be to determine, and the second to remove this cause, whatever it may be. If green sickness and impairment of the blood exist, then the proper treatment is that which is best calculated to restore the blood to a healthy condition. The means to be employed for this purpose we shall hereafter mention in treating of "Poverty of the Blood."

If there be reason to suspect that luxurious and indolent habits are deranging the health, the mode of life should be changed. Unless the patient will make the necessary effort to this end, it will be in vain for her to expect relief from her sufferings. In these cases, a removal to the country is often beneficial, where the active, out-door life, the regular hours, the plain, simple, but wholesome food, often effect wonders. Horseback exercise, carriage riding, and daily walks, are all beneficial.

When the system is infected with the ague poison, a removal to a healthy location is of the first importance. The malarial

poison may then be readily eradicated from the system by the use of the following recipe:—

Take of—

Sulphate of cinchonia . . 1 drachm.
Sulphate of iron . . . . 30 grains.
Confection of roses . a sufficient quantity

to make into a mass. Divide into thirty pills. Take one pill three times a day.

With the disappearance of the malarial infection, the neuralgic pain will also be dissipated. In fact, there is no form of disordered menstruation so readily cured as that depending upon malaria, for with proper treatment the cause is soon removed.

When a tendency to gout and rheumatism is the cause of the trouble, the treatment is more complicated and difficult. When the means of the patient will permit, it is desirable to spend the winter months in a warm climate. Flannel is to be worn next to the skin during cold weather. In these cases, *guaiac* and *colchicum* are of service:—

Take of—

Tincture of guaiac . . . . 1 fluidounce,
Syrup of orange-peel . . . 3 ounces.

Mix.

Take a dessertspoonful three times a day in some water.

A good formula for colchicum is the following:—

Take of—

Wine of colchicum seeds . . 1 fluidounce,
Sweet spirits of nitre . . 1 fluidounce,
Syrup of orange-peel . . . 2 fluidounces.

Mix.

Take a teaspoonful three times a day.

Or, the guaiac and colchicum can be combined in one prescription as follows:—

Take of—

Tincture of guaiac . . . 1 fluidounce,
Wine of colchicum seeds . . 1 fluidounce,
Syrup of orange-peel . . . 2 fluidounces.

Mix.

Take a dessertspoonful three times a day.

The one of these prescriptions chosen, should be taken during the week or ten days previously to the expected return of the

monthly sickness and continued throughout the whole period of the sickness. Neither of the recipes will be found very agreeable to the taste; either, however, will be found of great benefit in the cases of rheumatic origin. The use of the Turkish bath is also often of benefit in these instances.

Those who labor under these attacks are frequently sterile. In many cases, pregnancy and child-birth effect a radical cure.

Painful Periods due to Congestion.

The painful periods may not be owing to neuralgia; the nerves of the parts may be in a healthy condition, and the patient may never have had any neuralgic affection in her life. Yet she suffers almost martyrdom every month. The trouble in these instances is frequently due to congestion, that is, an unusual flow of blood to the parts, distending the vessels to an unnatural extent, and hence causing pain.

The *causes* of this undue congestion are exposure to cold and moisture, mental ex-

citement or alarm, derangement of the liver, or displacements of the womb.

The *symptoms* are different from the neuralgic affection we have just described. The suddenness of the attack is one peculiarity, the pain comes on unexpectedly, in the midst of a monthly period in a patient who has never suffered before. There is also much constitutional disturbance, that is, other parts of the system are affected. The eyes are flushed, the pulse is full and bounding, the skin hot, the head aching, and the sufferer nervous and restless.

The *treatment.* Here again we come face to face with the question as to the cause; for this must be ascertained before we can institute successful treatment. If the patient has taken cold, a warm bath, and some hot drink, with the addition of a little sweet spirits of nitre, will be the proper remedies. The application of a large hot linseed-meal poultice, over which a dessert-spoonful of laudanum has been sprinkled, will be found to afford great relief. It should be placed over the lower part of the

abdomen, and renewed every two hours. From twenty to twenty-five drops of laudanum in a little thin starch may also be used as an injection.

Painful Periods due to Obstruction.

We have now spoken of two forms of difficult menstruation, *i. e.*, that in which the pain is occasioned by neuralgia and that in which it is due to excessive distension of the bloodvessels. It remains for us to mention that if the monthly flow is retained or obstructed in its passage by any obstacle, severe pain is the result. The obstruction may be caused by a narrowing of the passages, by a displacement of the womb, or by the presence of some tumor or polypus.

It is evident that where an obstruction exists, the aid of the surgeon is required both to ascertain its nature and to apply the proper remedy. Fortunately the occurrence of disease of this kind is comparatively rare. When excessive pain exists at

the monthly epochs, it is usually either neuralgic in character, or due to some congestion or inflammation.

The following ointment may be used with benefit in any of the forms of painful menstruation:—

Take of—

Belladonna liniment . . 2 drachms,
Glycerine ointment . . 1 ounce.

Mix.

Rub a small portion of this daily into the skin of the lower part of the abdomen, during the continuance of the pain.

For two or three evenings, prior to the expected sickness, a warm hip-bath or foot-bath will be a useful palliative. The bath will not merely be grateful and soothing to the patient, but it will relieve congestion and facilitate the flow.

Injections of warm water into the vagina, thrown well up in contact with the mouth of the womb, are followed by marked alleviation of the pain. The injections should be repeated several times a day during the period.

A safe, efficient, and pleasant remedy for the pains of the monthly period has lately come into use in the profession. It is *apiol*, the active principle of parsley. This is put up by the pharmaceutist in the form of very little pills, or "pearls," as they are called, each containing four grains. One taken every two hours after the pains begin acts, in some cases, like a charm. This drug is only useful, however, in those instances in which there is no actual organic disease of the womb.

A very useful prescription is the following:—

Take of—
Camphor . . . . . 1½ drachm,
Extract of belladonna,
Sulphate of quinine, each 15 grains,
Pulverized gum-arabic, a sufficient quantity
to make in forty pills.
Take one every four hours until the pain is relieved.

Much benefit is derived in many cases, particularly in those of idle and luxurious habits, from the use of bromide of potassium.

Take of—

Bromide of potassium . 2 drachms,
Water . . . . . 2 fluidounces.

Mix.

A teaspoonful of this, in half a wineglass of water, is to be taken an hour after each meal.

The use of this prescription should be begun two or three days before the expected time of suffering, and continued until the amount given above is exhausted. The same quantity is to be obtained and taken at the next period, in the same manner, until permanent relief is secured.

PROFUSE PERIODS.

When the flow of blood, at the monthly period, is excessive, the woman is said to have *menorrhagia*, a medical term, which means profuse flooding. It is derived from two Greek words, μην, "a month," and ρηγνυμι, "I flow fiercely." This derangement of the menstrual function is not at all unfrequent. The amount of blood lost in this way is sometimes very considerable. The flooding often continues after the usual period has passed away.

The *causes* of excessive flooding are congestion or inflammation of the womb, some disease of the lining membrane or walls of that organ, or some trouble consequent on pregnancy. At the change of life women are very liable to congestion of the womb, and hence flooding is frequent at this age. Any violent or unusual muscular effort

may occasion it. It is the usual concomitant of an abortion, and may also occur as the result of derangement of the liver.

The *effects* of profuse flooding are pallor, loss of flesh, dyspepsia, hysteria, sterility, and, if severe and unchecked, death.

There are two varieties of this affection: one, in which the undue loss of blood occurs at the time of the monthly periods; the other, in which the flooding takes place at some time between these periods.

Treatment.—This is twofold: first, treatment of the attack; and, secondly, curative treatment, instituted to prevent the recurrence of an attack.

The object sought, during the flooding, is to check it as soon as possible. This may be accomplished by placing the patient on her back, and applying cold wet cloths to the lower part of the body and thighs. Cold, sour drinks may be given in small quantity, but no warm drinks are to be allowed. The patient must be kept quiet, her fears allayed, and the room made cool

and still. Ordinarily this is all the treatment which will be required.

Before instituting this, it must be recollected that some women lose naturally and regularly a large amount of blood each month, and that this loss takes place without any injury to them. Every woman is a law to herself in this respect. No one should, therefore, seek to check a flow which is natural to her, although it may seem excessive, as compared with the habit of some others. It must also be borne in mind that, during the early months of pregnancy, it is not unusual for a loss of blood to occur from time to time unexpectedly. When there is reason to suspect pregnancy, care should be taken in those cases not to have recourse to any treatment likely to induce loss of the fœtus. In such instances, rest in the recumbent position will usually be all that is required.

In severe cases of flooding, either of the following prescriptions will be found invaluable.

Take of—

Gallic acid . . . . . 3 drachms,
Aromatic sulphuric acid 2 drachms,
Tincture of cinnamon,
Water . . . . . each 2 ounces.

Mix.

Take a tablespoonful, mixed in a wineglassful of water, every few hours until the bleeding is checked.

In the manner directed, this prescription can be taken without hesitation, for it contains nothing which is hurtful.

Take of—

Oil of turpentine . . . . ½ ounce,
Tincture of red pepper . . ½ drachm,
Tincture of ergot . . . . 1 drachm,
Compound tincture of lavender . . . . . 2 ounces.

Mix.

Shake the bottle, and give from half a teaspoonful to a teaspoonful, in milk, every few hours.

SCANTY AND SUPPRESSED PERIODS.

When the menstrual flow is less than is ordinary, it is said to be scanty; when it is suppressed, after puberty and before the change of life, we have, unless the suppression be due to pregnancy or nursing, the disease known to physicians as *amenorrhœa*, a word derived from the Greek, meaning an absence of flow.

This trouble is by no means a rare one. It is particularly common among those in easy circumstances, who lead indolent and luxurious lives.

There are two varieties of this affection: in the one, the monthly sickness fails to appear, or is suddenly suppressed, in a woman who is regular; in the other, it has never made its appearance, although the period of puberty has been attained and passed.

The *causes* of suppression of the menses are numerous. The monthly sickness may never have appeared, because of the absence of the womb, or some of its appendages. This cause is of course a rare one. So, also, is some obstruction of the natural outlet which retains the monthly secretion.

Much more commonly we find the disease owing to some disorder of the moral feelings. Anxiety, grief, disappointment, fear, etc. may, by acting first upon the brain and nervous system, and then upon the blood, bring about irregularity in the monthly periods. Under such circumstances, both body and mind are depressed, the muscular powers become languid, there is a sense of fulness about the head, associated with giddiness, the lungs and heart seem oppressed in their action, the appetite is disordered, the blood becomes vitiated, and the cheeks and lips lose their color, perhaps take a bluish or greenish hue. The monthly function, of course, sympathizes with this general disorder of the system; its derangement reacts upon the general

system, and unless the train of morbid action is interrupted, the patient becomes seriously ill, and may even die of "disappointed affections," or "a broken heart."

"When," as Dr. Tilt well remarks, "we hear of the hair turning gray, in the space of one night, from the mind being racked with unutterable woe; when we know that even slight emotions may cause the heart to palpitate, and to push forth wearily the ever-gushing blood stream; when, again, from emotion, the cheeks become damask with blushes, or pallid, damp, and cold, need we wonder that mental emotion should affect other equally sensitive parts of the body; that it should, in fact, turn off the sanguineous current from the pale-grown surface of the womb? It is, therefore, of no trifling importance to the health of women forcibly to impress upon their friends that at this particular period of the month no bad news or disastrous event should be suddenly communicated. If it be not possible to have some previous conversation with a female relative, the blow

should not be struck until the gay and unsuspecting spirit has been untuned, and by degrees brought down to the diapason of grief, by an increasing gravity of manner, by gradual forebodings of possible misfortune, and such preparatory steps as can only be suggested by the nature of the misfortune. It also behooves all who have the care of girls so to strengthen the nervous system that they may in after life suffer as little as possible from this cause; a part of education which should be begun as soon as the infant, by its shiverings, fears, and passions, has convinced its mother that it has a nervous system. We have certainly met with ladies who, at all periods of the month, could with impunity wash in cold water, or take a cold-bath, and we are acquainted with one who has, in winter, to break the ice in her bath before she plunges in; but we only notice these cases as remarkable exceptions, in order to show the possibility of these ladies being able to do so with impunity, on account of the absence of all tendency to nervousness,

and the superior strength of mind exhibited by them under the most trying circumstances of an agitated life."

The most frequent causes of continued suppression are physical rather than moral. They are want of proper diet, air, and exercise, hereditary tendencies, mental excitement, over-stimulation of the passions, too prolonged devotion to physical or mental labor, and continued disorder of the nervous system.

In *consumption of the lungs*, the monthly sickness, as is well known, gradually lessens in amount, and finally entirely disappears. This is due to the want of vital power, and the impoverishment of the blood. But little of course can be done under such circumstances. Treatment should be directed towards the diseased lungs, and no endeavors made to restore a function which is not in itself disordered.

Rheumatism and *gout* occasionally bring about suppression. So, also, do various eruptive and skin diseases. The remedy in such instances is to be sought in the relief

of the rheumatic and cutaneous troubles. The cases on record show that when these diseases are cured the monthly sickness reappears without other treatment.

Fevers, and other serious attacks of sickness, naturally react upon the womb. The cessation of the natural flow, under such circumstances, is not unexpected, and need never excite alarm. After convalescence shall have begun, its reappearance may be confidently looked for. If delayed, the attention of the attending physician should be called to the fact, as it occasionally happens that some little treatment is required before the wonted healthy action is restored.

Nervous irritations produce in some mysterious way disorder in the menstrual life. In some cases, the cause of this nervous irritation is hidden, and its true nature not fully understood. Prof. Hodge, of Philadelphia, describes such a condition as follows:—

"Thus suppression of the periods occasionally occurs in girls who are apparently healthy. The phenomena of puberty are

decided; the skeleton, the muscles, the breasts, the fatty tissue, are all well developed, under the influence of good rich blood, which distends the smaller vessels, and gives the ruddy tinge of health to the whole surface. The brain is active; the muscular, mental, and moral powers are all indicative of perfect adolescence. Nevertheless, there is no menstruation. It is a case of suppression in a strong girl, arising therefore, not from want of strength, but from some peculiar state of the nervous system; there is a sedation, that is, a want of that peculiar excitation which gives origin to menstruation. In some such supposed cases, there may be an absence, or an obliteration, in the structure of the uterus or of the ovaries, etc., or an obstruction in the vagina, or some other cause explanatory of the non-appearance of the menses. But, in many cases, no such cause can be detected, and indeed does not exist; for, eventually, the menses appear and return regularly."

This same state may also be observed in

cases of suppression of the menses, from any accidental cause, as mental disturbances, exposure to cold, etc. The menses stop, but the general condition continues very good. The cases are numerous of young women whose menses have thus disappeared, and yet they have enjoyed good health for a longer or shorter time, or even for the rest of their lives.

"In those cases of suppression where the irritation is located in the brain or spinal cord, the consequences may be severe, although seldom dangerous. Usually, the patient appears perfectly well, is cheerful, happy, and actively devoted to her ordinary pursuits, but with a nervous system so susceptible that the least impression disturbs it. A disagreeable object, an unpleasant odor, a transitory mental or moral emotion, will sometimes produce sensations of exhaustion, giddiness, languor, and even complete fainting; and if the cause be more powerful, as fear, joy, anger, or severe pain in any portion of the body, we have manifested the various forms of hysteria, such as

headaches, a sense of suffocation, the ball in the throat, spasms, and convulsions."

These symptoms of nervous disturbance usually quickly disappear under healthful influences, the monthly habits are restored, and the whole trouble passes away never to return.

Cold exerts a marked influence upon the suppression of menstruation. Particularly is this the case, when moisture also is present. Wet or damp feet often check the menstrual flow, and may prevent its return. In many instances, in which, in order to spend an evening in pleasure, recourse has been had to immersing the feet in cold water, or to taking a cold hip-bath during the period, not only has an attack of illness been brought about, but the health for ever after has been impaired. No woman can, with impunity, commit such an imprudence. Every girl should be warned of its danger. A single indiscretion of this kind, we repeat, may be attended with the saddest consequences; may render miserable and burdensome to self and others a life which

would otherwise have been happy and useful.

Prof. Charles D. Meigs relates one instance, of many which might be mentioned, wherein a future has been wrecked by a single act of imprudence:—

"A young lady, in consummate health, wished to go to a ball; but, unfortunately, before the time for dressing arrived, she was taken poorly, and began to fret at the occurrence. Her nurse, an old and confidential servant, made her take a hip-bath of cold water, and the courses disappeared. She went to the ball; came home before the end, with a blinding headache; was attacked with a brain fever, lost her bloom and embonpoint; and now, at the age of near fifty, still feels the effects of the dereliction of duty on the part of the confidential servant. That lady's whole life was rendered a scene of bitterness, of vapors and caprices, by that single hip-bath."

There is no excuse for wet, cold feet, at any season of the year, in this country.

Every woman can protect herself against them during her monthly illness. If the weather be inclement, and it be necessary for her to go out of doors, thick boots and shoes, rubber overhauls or boots, and waterproof, will protect her. Damp clothes should be at once removed on returning to the house, and, if the feet be cold, they should be immersed in warm water and dried before a fire.

Dr. Raon, of Copenhagen, mentions that suppression of the monthly flow is extremely frequent in the Feröe Islands, on account of the women wearing, instead of shoes, a skin round their feet, which keeps them constantly wet, in damp, cold weather.

The *treatment* of a case of sudden suppression, to whatever cause it may be due, should be prompt and decisive. A warm hip-bath, containing mustard, should be taken at once, and the patient should then place herself in a warm bed, and take freely of hot drinks. These precautions ought never to be neglected. They can never be

productive of any injury, and may avert some fatal brain affection, or a life-long disease.

When the time of the expected monthly sickness arrives, and no flow appears, inquiry should at once be made into the cause, for it is obvious that the same treatment is not required in a case of suppression due to mental emotion, as in one due to rheumatism. We will pass, therefore, in review the principal causes we have already enumerated, in order to point out the treatment required for their removal, and for the eradication of their effects.

Mental and Moral Disturbances.—When it is possible to minister successfully to "the mind diseased," this is usually all the treatment required. Restore the nervous system to a state of tranquillity, by soothing the anxious or grieved feelings, and all irregularity will quickly disappear.

In *consumption*, and other organic disease, the primary affection must receive the principal attention. It alone calls for treat-

ment. No good can possibly result from endeavoring, by forcing medicines, to cause a renewal of the monthly flow, the absence of which is not the cause, but the effect, of the constitutional disease. In rheumatism or gout, the same course of action is required. The remedies administered are aimed at the rheumatic or gouty affection, which stands like a barrier in the way of a return of the periodic flow.

Want of Strength.—When feeble health, exhaustion of the vital powers, unaccompanied with any positive organic disease, is the cause of the suppression, the proper remedies are sufficiently obvious. They consist of those articles of food, those forms of exercise, and those tonic medicinal remedies, which are known to exert a revivifying influence upon the prostrated system. For the purpose of restoring the appetite, and toning up the system, in those cases, a very useful and elegant preparation is the following, known as the

Elixir of Gentian and Iron.

Take of—

Pyrophosphate of iron . 1 drachm,
Boiling water . . . . ½ ounce,

Mix and add

Fluid extract of gentian . ½ ounce,
Curaçoa . . . . . 1½ ounce,
Wine . . . . . 1½ ounce.

Mix.

A teaspoonful three times a day is the proper dose.

Or, the pyrophosphate of iron (a most excellent and not disagreeable form of iron) may be given alone, dissolved in water, with a little curaçoa added to give a pleasant flavor, as follows:—

Take of—

Pyrophosphate of iron .. 2 drachms,
Curaçoa . . . . . ½ ounce,
Water . . . . . 2½ ounces.

Mix.

Take a teaspoonful three or four times a day.

An excellent remedy for suppression, when there is no disease of the womb, is apiol—the active principle of parsley—which is so useful in painful periods. Apiol may be obtained from first-class druggists

in the form of granules, or "pearls." Each pearl contains four grains. One pearl should be taken four times a day, for three or four days, before the time of the expected monthly sickness. This remedy is a perfectly harmless one, and is productive of great good in those cases in which the trouble is not dependent upon actual womb disease.

The following pill will also be found of service in some cases:—

Take of—

Assafœtida,

Myrrh . . . . . each 1 drachm,

Socotrine aloes . . . . 1 scruple,

Lactate of iron . . . . 1 drachm.

Mix.

Make into forty pills.

Take one night and morning.

STERILITY IN MARRIAGE.

As maid, as wife, and as mother, woman happily passes through the three destined stages of her physiological life. When she fails to become a mother, the wife stops short of full womanly development and happiness. A childless household was regarded by the ancients as an evidence of Divine displeasure. It is often with us the cause of much domestic infelicity. A French poet, singing of the joys of maternity, says:—

"Le bonheur sans enfant, c'est le ciel sans étoiles."

The study of the nature of barrenness, with the view to its prevention, is, therefore, a proper part of family hygiene, and its treatment a legitimate department of medicine.

During two portions of the life of every woman, she is naturally, that is to say, in accordance with physiological laws, sterile.

These periods are before the age of puberty, and after the "change of life." She is only capable of bearing children subsequent to the first appearance of her monthly sickness, and before their entire cessation—a variable number of years, embracing between a third and a half of her natural expectation of life.

Sterility makes itself apparent very shortly after marriage. If the wife be fertile, she will have, as an average rule, an infant within the first twenty months of wedded life. If three years pass without the occurrence of pregnancy, the great probability, as shown by exact statistics, is that she is destined to be barren.

The causes of infertility in marriage may rest either with the wife or the husband. The latter may be the party at fault, even though he be to all appearance robust, and in the full enjoyment of all his functions. The constitutional conditions and local disorders which induce sterility in the wife are, however, the more numerous, and it is to them that we shall confine our remarks.

One marriage in eight fails in the great object of the marital union—the increase and multiplication of the race. It must not be supposed that conception has never taken place in all of these childless marriages. In some instances, a tendency to miscarriage exists, and the abortion occurs at so early a period as to escape attention. When recognized, this cause is happily, in most cases, removable.

Influence of the Age of Marriage on the probable Size of the Family.—The age of the maiden, at the time of her marriage, has a sensible influence upon the number of children she will probably have. This is not a matter of conjecture. Averages have been carefully collated, from the most extended research. Dr. Matthews Duncan, of Edinburgh, has recorded, in his recent learned work on "Fecundity, Fertility, and Sterility," a number of most interesting results of his investigations on this subject. These, freed from their sombre statistical array and scientific terminology, we will

transfer, for the benefit of our non-medical readers, to our pages.

A woman married between twenty and twenty-five years of age, is less apt to be sterile than if married earlier or later; for, it has been found in England, that nearly all such wives are fertile. The probabilities of a woman married after her twenty-fourth year, being childless, are greater the older she is. One in fourteen of all wives, between fifteen and nineteen years of age, is barren. Among these youthful wives, also, under twenty, instances of excessive fertility are more frequently met with than among any other. Thus, the bride under nineteen runs a much greater risk of suffering from the evils both of childlessness and of over-production than if she had tarried a few years longer in single life.

The Age at the time of Marriage also influences the Period which will probably elapse before the Wife becomes a Mother.—We have stated that the average interval for all wives, between the date of marriage and the birth of the first child, is about twenty

months. In cases in which the marriage takes place between the twentieth and twenty-fourth year, this interval is lessened. Neither younger nor older wives enter so soon, on the average, upon their career of child-bearing.

The Age of Marriage likewise affects the time during which the Wife will continue to bear Children.—The older she is when married, the more advanced will be her age at the time she ceases to increase her family. It must not be understood, however, that her period of child-bearing is longer than that of the younger bride. Such is not the case. It is, in its actual number of years, shorter. But by continuing her fertility to a more advanced age, nature makes the attempt, as it were, to render it of an equal duration with that of the younger wife.

Periods of Temporary Sterility.—During the child-bearing period of fertile wives the average interval between successive births after the first is from twenty months to two years. If a mother, in good health, does not conceive during the space of

three years, the chances are that she has become sterile.

Conception rarely takes place while the mother is nursing her child. This is a wise provision of nature against the too rapid increase of family.

Constitutional Causes of Sterility.—In many cases barrenness is associated with want of vigor, pallor, a condition of languor, and a general feebleness. Before the wife can give life to another, her own vitality must be increased. Attention to the general health and a renewal of physical force will render her capable of becoming a mother. In other instances some disordered condition or poisonous element in the blood, that vital fluid which animates all the animal functions, is the barrier to maternity.

Excessive Obesity.—Embonpoint often goes hand in hand with sterility. When this undue accumulation of fat is unassociated with disease, it may readily be gotten rid of by a proper course of diet. Its disappearance alone may secure the desired

end. Any woman may decrease her flesh at will and without injury to her health if she will partake only of a certain bill of fare. And this without lessening the amount of food she takes during the day. In order to do this she must *avoid* sugar, molasses and sweet dishes, potatoes, fat meat, butter, bread, pastry, Indian corn, turnips, beets, milk, and beer. Denying herself of these articles, she may *use* as freely as she may desire of the lean meats, game, eggs (discarding the yelk), fish, gluten or bran bread, peas, cabbages, onions, tomatoes, asparagus, egg-plant, apple-sauce, pickles, and for drinks, coffee or tea without sugar or milk, and plain water. The greater the amount of meat eaten, and the less of vegetables, the better. Adverse circumstances reduce flesh, and it not unfrequently happens that wives who, when rich, were barren, become mothers when poor.

Extreme Leanness.—We speak now of thinness as a constitutional trait, unassociated with disease. Such spareness very often disappears after marriage, and par-

ticularly after maternity. When this does not occur, and the wife is sterile, it is desirable to change the constitutional condition by increasing her flesh and color. This also may be accomplished by a judicious system of diet. She should *avoid* vinegar, pickles, sour wines or fruits, acid vegetables, and highly spiced food. She should *partake* largely of vegetables, particularly potatoes, sugar-beets, carrots, green peas, turnips, milk or cream, bread and butter, molasses, sugar and the sweets generally.

Hippocrates, recognizing the influence of corpulence and leanness upon fertility, advised that thin women should be united in marriage to stout husbands, and *vice versâ.*

Other Causes of Sterility.—These are sometimes very obscure. Why, for instance, should a woman prolific in her first marriage be barren in her second, although united to a man who has had children? This question we cannot answer, and therefore are in the habit of saying it is due to

incompatibility of temperament, which term is merely an expression of ignorance.

Excess of passion in the marital relation is far less frequently a cause of sterility than undue frigidity.

Counsel to Sterile Wives.

Barrenness is very often remediable. Nor need hope be necessarily abandoned because of lapse of time. The records of modern medicine contain cases of fertility even after thirty years of sterility.

The most favorable time for conception is that immediately before or a few days after the monthly sickness. This information conveys the most important advice we can give to wives who desire to have children. Almost every physician of experience in this department of medicine, can point to instances in which counsel to this effect has resulted in the gratification of hopes long deferred.

The physiologist Marshall Hall has advised the putting of a strong infant to

the breast as a remedy for barrenness. It is well known that the breasts and the uterine system are closely linked. Their sympathies are so strong that the one is affected by any impression or excitation of the other. For this reason the application of the breast pumps, several times a day (with due caution not to irritate), immediately before the appearance of the monthly sickness, is not without benefit. Use may also be made with advantage, at the same periods, of warm fomentation of milk to the breasts and to the portion of the spinal column directly opposite. Horseback exercise sometimes predisposes to pregnancy.

Of course, when the sterility depends, as is often the case, upon some disease, ulceration, or displacement of the womb, this must be remedied by medical treatment.

A bed of hemlock boughs, and the odor of pine forests, have both long enjoyed an established reputation in cases of sterility. It is a matter of common observation that the families of those living among pine trees are usually large. Beds of sponge

are also recommended as conducive to fruitfulness in wedlock.

Many cases of sterility have their origin in disorders of the monthly periods. The proper care of the health, in this regard, we have dwelt upon at some length in previous pages, and we would advise that the precautions mentioned be adopted by married women, particularly during the first months of married life, if they value their prospects of maternity.

When displacement of the womb is the cause of sterility, as not unfrequently happens, the use of a pessary is followed by the happiest results. The pessary should be continued to be worn for three or four months after conception, in order to guard against miscarriage.

Dr. Tilt, of London, in his "Handbook of Uterine Therapeutics," points out two not infrequent causes of sterility, and suggests the remedy. He says: "The physical appearance of organs may be perfectly satisfactory, but the hidden power that works the machinery may be above or below

that moderate standard, which is the best guarantee of healthy action. That connection should be pleasurable is a sign of the reproductive organs being healthy; but there are barren women in whom the trouble appears to lie in too much passion. I remembered a case in which it subsided after the prolonged use of cold hip-baths, cooling injections, and the internal use of camphor; soon afterward the patient became pregnant. Whether or not such cases are more carefully concealed, they less frequently come under my observation than those of the opposite sort—frigidity. Women may be well formed, happily married, and without any tangible imperfections of the sexual organs, and yet completely indifferent to connection, which neither gives pain nor pleasure, and I have been consulted by nine such women who have never conceived."

WHITE FLOWING.

The whitish, yellowish, or greenish discharge which takes place from the vagina under the influence of disease of its lining membrane, or of the womb, constitutes the affection known to physicians as leucorrhœa, and to patients as "the whites."

It is important that every woman should have correct information in regard to the discharges to which she is subject, for while some are harmless, others are fraught with danger, and indicative of disease requiring attention. She should know that, in a condition of perfect health, the first sign of established puberty is often preceded by a white discharge. This should not, therefore, excite any alarm. It frequently happens that each period is preceded and followed, for a few days, by a whitish discharge, which may then be looked upon as

part of the regular monthly flow. A white discharge, slight in amount, occasionally, also, appears in the time between two periods, particularly in those who are not strong. If attended by no pain, this discharge is not probably associated with any actual disease, and merely calls for greater attention to personal cleanliness.

The case is different, however, when the discharge, in place of being white, and unattended by any pain, is of a yellowish or greenish tinge, and accompanied by pain in the lower part of the back and in the thighs. Then energetic treatment is required, lest the general health be impaired by the drain upon the system.

White flowing is an exceedingly common trouble; but few women, it is said, ever pass through life without, at some time, suffering from it.

The *causes* of whites are, as may be supposed, from the frequency of the complaint, very numerous. Whatever prostrates the general health, impoverishes the blood, or disorders the digestion, may occasion it.

Irregularity in the monthly periods will quickly bring it on. Displacements and ulcerations of the womb are, perhaps, the most prominent causes, and generally lie back of the more abundant, constant, and annoying forms of the affection.

Besides the suffering and inconvenience attaching to this discharge, sterility often results from it. Its cure may, therefore, remove the reproach of barrenness.

The *treatment* consists in ascertaining and removing the cause which has excited the complaint. If the general health be impaired, tonics and change of scene are of service. These we shall more particularly specify, in treating of poverty of the blood, hereafter. If there be irregularity of the monthly periods, those measures of precaution and cure already mentioned are to be resorted to. In all cases, however, the use of astringent injections is important, in some instances all that is required. We shall, therefore, give a number of useful prescriptions for this purpose.

Before doing so, we wish to give some directions as to the proper manner of using

them. *Injections often fail of effect, because improperly administered.* Comparatively few, indeed, unless instructed, ever employ them in a right way. In the first place, the syringe should *not* be a small glass or pewter one. Such an instrument, holding only two or three ounces of fluid, is useless—worse than useless. It is impossible to inject, at one time, a sufficient amount of fluid to do any good, and the frequent removal and reintroduction of the syringe irritates the parts. The only effectual instrument is the rubber hand-ball syringe, by means of which a continuous stream can be injected at any given time. As it is important that the upper part of the canal, and the lower surface of the womb, should be reached by the injected fluid, the reclining posture, on a hard sofa, with the edge of the basin under the seat, is the best position in which to use the syringe; and the liquid ought to be pumped up for at least five minutes. In regard to the temperature of the injection, no fixed rule can be given. Some patients bear

cold injections badly. In long-standing cases, a cold fluid is preferable; in a recent, painful case, a warm solution is more soothing.

The following injections are arranged in the order of their strength:—

Equal parts of warm water and milk make a bland, cleansing solution, to be used several times a day.

Another soothing injection, when there is much pain, is a mixture of glycerine and water, in the proportion of two or three tablespoonfuls of glycerine to the pint of water.

Linseed tea is also useful, either alone or with the addition of alum or lead. It is made as follows:—

Take of—

Slightly bruised linseed . ½ ounce,
Water . . . . . 3 pints.

Gently boil for ten minutes, and carefully strain, so as to remove any fragments of the seeds which might otherwise obstruct the pipe of the syringe.

To this, or either of the preceding injections, laudanum may be added, in the

proportion of a teaspoonful to each pint of the fluid.

The following are excellent *cooling injections*:—

Take of—

Borax . . . . . 1 drachm,
Cool water . . . . . 1 pint.

Mix.

Or, substitute for the borax the same quantity of chlorate of potash, or of acetate of lead. When the parts are irritable, and the discharge acrid, add to each of these solutions before use, a teaspoonful of laudanum, and a tablespoonful of glycerine.

Astringent injections should be as cold as the patient can well bear. The following are approved solutions:—

Take of—

Oak bark . . . . . 1 ounce,
Water . . . . . 2 pints.

Boil down to one pint, strain, and cool.

Ordinary *green tea*, as prepared for the table, when cold, makes an excellent injection.

Take of—

Tannin . . . . . 30 to 60 grains,
Cold water . . . . . 1 pint.

Mix.

Or,

Take of—

Alum . . . . . 1 drachm,
Sulphate of zinc . . . . 10 grains,
Cold water . . . . . 1 pint.

Mix.

Alum alone, in the proportion of about a teaspoonful of the powder to the pint of water, makes a good solution for injection.

When the discharge is offensive, a tablespoonful of the solution of chlorinated soda (Labarraque's solution) may be added to the injection employed, or may be used alone as follows:—

Take of—

Solution of chlorinated soda
(Labarraque's solution) . 1 fluidounce,
Water . . . . . 1 pint.

Mix.

An equally good deodorizing mixture is made of permanganate of potash:—

Take of—

Permanganate of potash .	1 drachm,
Water	1 pint.

To these injections, as to the others mentioned, a teaspoonful of laudanum, and a tablespoonful of glycerine, are to be added if they cause any smarting.

The following is also a useful injection, when there is fetor:—

Take of—

Creosote	20 drops,
Yelk of egg	1
Water	8 ounces.

Mix.

Add half of this to a pint of water.

The soothing injections may be used as often as three times a day; the cooling injections, twice a day; the alum injections not more than once a day, unless they are employed to check the loss of blood, when they may be repeated several times during the twenty-four hours.

As a rule, all injections should be discontinued during the monthly periods, unless otherwise specially directed by the physician.

Take of—

Lead water . . . . . 6 fluidounces.

Direct one large tablespoonful to be mixed with a pint of water, to form an injection. Use twice a day.

Take of—

Extract of Hæmatoxylin (log-wood) . . . . . 1 ounce,

Alum . . . . . 2 drachms,

Water . . . . . 1 pint.

Mix.

A useful injection, when there is an offensive discharge. Care should be taken in using it, for it will stain all linen with which it comes in contact.

POVERTY OF THE BLOOD.

This condition of the blood is known to physicians under the technical term of *anœmia*. The red particles in the circulating fluid are diminished in number, and paleness of the surface results. This impoverishment of the blood may arise from want of nourishment, owing to improper food or disorder of the digestive apparatus; from some drain upon the system, owing to excessive loss at the monthly periods or white flowing; or from some poison in the blood. Whatever be the cause, the trouble should not be treated as a trifling one.

Unfortunately it has become so fashionable to have a pale face, that it is no longer looked upon as an indication of ill-health in woman. Hence it happens that both mothers and daughters consider pallor of the complexion as natural to them; or if

denotive of impaired vitality, that all attempts to improve in strength and flesh are useless. They quietly and indolently endure infirmities which they consider as indissolubly wedded to their constitution. The young and beautiful passively suffer themselves to become quickly old, sad, and weak. The way is thus prepared for the invasion of consumption and cancerous affections. This decline in health and the irremediable results therefrom might all be prevented by timely care and a prompt use of tonics, especially those containing iron. It has been aptly said that the fabled fountain of youth must have been an iron spring, for such alone is able to restore the charms and freshness of youth to women who have fallen into premature old age.

The *causes* of poverty of the blood are numerous. Over-exertion of mind or body, hardship, grief, disappointment, and pain are among the most frequent agencies at work in bringing about a watery condition of the blood. Too profuse periods, con-

tinued discharges and over-nursing are also common causes of this affection. The greater frequency of this complaint in large towns and cities, and among the higher classes of society, shows that it is often produced by want of attention to the physical development of young girls and women, by deprivation of fresh air, pure food, and out-door exercise.

The *symptoms* are easily recognized. Failure of strength is a prominent one. This general debility is associated with a pale, waxen skin, blanched lips and tongue, a blue tinge of the "whites" of the eyes, a quick, feeble pulse, shortness of breath on the least exertion, loss of appetite and increase of thirst, low spirits, capricious, irritable temper, headache, disturbed sleep, and cold extremities. A sense of fainting, hurried breathing, and palpitation of the heart, result from any exertion. These symptoms are nearly all marked when the complaint is well established. The earliest noticeable are the loss of strength and of color. These should receive prompt attention. If

combated at the outset, the impoverishment of the blood is usually checked without difficulty. We have alluded to the dangers encountered by a neglect of early remedial measures.

There is no absolute or necessary connection between poverty of the blood and nervousness, as cause and effect, as has been well pointed out by Prof. Hodge. The two may go hand in hand, but are not always associated. "All females are comparatively nervous, even with excellent organic actions, rich blood, free capillary circulation, rosy complexion, and an abundance of animal heat continually generated. Their temperament is nervous. In some cases, by no means few in number, this is wonderfully true. Every one, of any experience, must have known women, who were of the most robust appearance, with excellent appetite and digestion, an abundant supply of blood of the purest character, with all their functions in an admirable condition, being strong and feeling strong, and yet who were excessively nervous, ex-

citable, and irritable. The least cause, mental or physical, will disturb their sensations or perceptions, and induce the worst forms of hysteria. Such women look well, but feel supremely wretched. Few, sometimes not even their physician, sympathize with them. They are regarded as imaginative or even as deceitful beings. The reverse of the picture is often equally true, poverty of the blood existing to a very great degree with few or no special manifestations of nervous irritability. In men, especially, this is often the case, as in many cases of exhaustion from dyspepsia, diarrhœa, hemorrhages, and chronic diseases. In women this is, of course, not so frequent, owing to their natural temperament; yet, often, in the delicate, pallid, emaciated woman, you will discover few symptoms of nervous irritation, and you will hear the declaration, "Doctor, I have never been nervous."

Although nervous irritability is, in many cases conjoined with the poverty of the

circulating fluid, it is not therefore to be looked upon as a constant accompaniment.

The *treatment* of this complaint is usually very satisfactory, if early instituted. If the cause of the trouble can be discovered and readily removed, as is generally the case, the blood is soon enriched with the aid of preparations of iron and other tonics. The avoidance of all excesses, change of air, due repose of mind and body, and a nutritious, easily digested diet, seldom fail to complete the cure.

Good, plain, nourishing food is to be taken as freely as it can be digested. The patient may begin with milk and eggs and beef-tea, and advance as rapidly as possible to fish, poultry, and mutton. To enable her, however, to take and digest this food, tonics, conjoined sometimes with slightly laxative medicine, are needed. Of all the tonics, in this complaint, *iron* is the best. It is, indeed, imperatively called for. It may, however, be advantageously combined with vegetable bitters. We shall give a number of recipes, containing various pre-

parations of iron, united with different vegetable tonics. All of these prescriptions are valuable and safe. We are sure a knowledge of them cannot but be useful and fraught with no danger. Here, as elsewhere in this book, we have avoided all hurtful combinations, and recommended only those which can be safely employed in family practice.

The following tonic is an excellent one, particularly when the poverty of the blood has been induced by excessive loss of blood at the monthly periods:—

Take of—

Pyrophosphate of iron	1½ drachm,
Tincture of colomba	½ fluidounce,
Water	2½ fluidounces.

Mix.

Take two teaspoonfuls, before each meal, in water. Keep quiet and avoid stimulating food and drinks while menstruating.

If the bowels be constipated, take at the same time the following:—

Take of—

Sulphate of magnesia . . 2 ounces,
Cream of tartar . . . . 1 ounce,
Water . . . . . 2 pints.

Mix.

To be taken in wineglassful doses sufficiently often to move the bowels once a day.

Another excellent preparation is the combination of iron with cinchona, as fol lows :—

Take of—

Tincture of the chloride of iron . . . . . 3 drachms,
Sulphate of cinchona . . 15 grains,
Simple syrup . . . . . 1 fluidounce,
Water . . . . . 2 fluidounces.

Mix.

A teaspoonful, in a wineglassful of water, is to be drawn through a glass tube three times a day before meals.

As iron is the agent mainly to be trusted to in the treatment of impoverished blood, we will mention a number of other reliable forms and combinations of this metal.

Reduced iron, or iron in a state of very minute particles, is a valuable agent.

Take of—

Reduced iron . . . . . ½ drachm,
Sugar . . . . . 1 drachm.

Mix, and divide into twelve powders.

One powder is to be taken, in syrup or molasses, three times a day.

Or, the reduced iron may be combined with quinine and gentian, as follows:—

Take of—

Reduced iron . . . . . ½ drachm,
Sulphate of quinine . . 12 grains,
Extract of gentian . . . 10 grains.

Mix, and divide into twelve pills.

One to be taken three times a day.

The sulphate of iron is also an excellent preparation. It may be given alone, made up into pills, one or two grains in each pill, three times a day; or it may be united with quinine, as follows:—

Take of—

Sulphate of iron . . . 24 grains,
Sulphate of quinine . . 12 grains,
Syrup . . . . . a sufficient quantity

to make a pilular mass. Divide into twelve pills.

One of these pills is to be taken three times a day.

When the impoverished blood results from too severe mental occupation, or distress, then the phosphate of iron, or the phosphate of zinc, will do much good. We give a prescription for each.

Take of—

Phosphate of iron . . . 2 scruples,
Pulverized myrrh . . . ½ drachm,
White sugar . . . . . ½ drachm.

Mix, and divide into twelve powders.

One is to be taken three times a day.

Take of—

Phosphate of zinc . . . 2 scruples,
Dilute phosphoric acid . 1½ fluidrachm,
Compound tincture of cinchonia . . . . 1½ fluidounce,
Peppermint water . . . 6 fluidounces.

Mix.

Take a tablespoonful, in a wineglassful of water, three times a day.

Cod-liver oil may be taken with advantage at the same time with either of the foregoing prescriptions. This treatment, together with rest, good diet, fatty articles of food, and, if possible, a change of scene, will be usually all that is required.

When there is indigestion, *pepsin* is wonderfully effective in restoring digestive power, wanting which it is impossible to introduce into the blood the enriching material it so much needs. It is of no use to administer tonics and nutritious food, if the stomach be unable to digest them. This inability of the stomach to perform its work is frequently met with when the poverty of the blood is calling most imperatively for restoratives. The value of pepsin in these cases is readily explained.

The food is subjected in the stomach to the action of the gastric juice. This gastric juice consists of water, acids, and a peculiar substance of the nature of a ferment, known under the name of pepsin. When the gastric juice, for any reason, is not secreted in sufficient quantity, artificial pepsin may be introduced into the stomach with great advantage. The pepsin may be taken either in the form of a powder or in that of a wine. If the powder be used, fifteen grains is the proper dose, taken at the commencement of the meal, between two

slices of bread, or in a little lukewarm soup. The wine of pepsin is employed in teaspoonful doses, before each meal.

The only curative means, other than those we have just given, to be borne in mind, are exercise in the open air, not too prolonged, and cold bathing, especially in sea-water.

Under the influence of these agencies, the blood will gradually lose its watery character, and refind the red particles of which it has been deprived. But as these red particles are not quickly reformed in proper numbers, time is an important element in the treatment, and the patient must patiently persevere in the remedies for many weeks.

NEURALGIC PAINS.

Under this head we design to call attention to some of the painful affections to which women alone are subject. We refer to rheumatic and neuralgic inflammations of the womb and ovaries.

The sufferers from neuralgia of the womb and of the ovaries are ordinarily delicate women, with a constitution naturally feeble, or one that has been impaired by a series of imprudent acts. Attention to the general health is required, therefore, in most cases, as we shall presently point out. Neuralgia of these parts occurs, not unfrequently, in young girls directly after the age of puberty, associated with painful periods. The disease is most frequent, however, among wives and mothers. It sometimes first makes its appearance a short time after childbirth.

The *symptoms* are pain and soreness. The pain may be of a sharp, shooting character, or dull and aching. It is situated in the lower part of the abdomen, the groin, the back, and the inner surface of the thighs. It is rendered much worse by exposure to cold damp weather, by fatigue, by mental emotion, and by disorders of the monthly periods.

Patients, at all liable to this trouble, should most sedulously seek to improve and preserve their general health. Warm clothing is of the utmost importance. In summer, cotton drawers are always to be worn, and during the winter flannel ones. The diet claims particular attention. It should be nourishing, animal food being taken at least once a day. Cold bathing is usually dangerous and injurious; warm hip-baths are beneficial, and may be repeated several times a week.

During pregnancy and nursing, women are peculiarly liable to rheumatism and neuralgia of the womb, on account of the susceptibility of the skin. During these

periods the perspiration is readily checked, which may give rise to serious trouble. Extra precautions ought, therefore, to be taken against exposure to draughts, changes of clothing, and atmospheric vicissitudes.

In these cases, in which there are also floating neuralgic pains throughout the body, and in which the strength and appetite are impaired, the *bitter wine of iron* is an excellent remedy. The following prescription is a good one.

Take of—

Bitter wine of iron . .	4 fluidounces,
Tincture of nux vomica .	2 fluidrachms.

Mix.

Take a dessertspoonful (that is, two teaspoonfuls) in a wineglassful of water, just after each meal.

The following is an excellent preparation. It is often of great benefit in those cases in which no other sedative and tonic can be taken:—

Take of—

Extract of henbane

Sulphate of quinine . each 20 grains.

Mix.

Divide into twenty pills.

One is to be taken every night.

The following ointment affords much relief, when rubbed into the skin over the painful parts of the abdomen or back:—

Take of—

Belladonna liniment . . 2 drachms,

Glycerine ointment . . . 1 ounce.

Mix.

In cases of neuralgia of the ovaries, the prescription given below exerts an almost magical influence in some cases:—

Take of—

Muriate of ammonia . . 2 drachms,

Tincture of aconite leaf . 2 fluidrachms,

Syrup of orange-peel . . 8 fluidounces.

Mix.

The dose is a teaspoonful three times a day.

In many instances in which ordinary

anodynes have been employed without benefit, the pains will be relieved by the time the above prescription is finished in the doses directed.

HEADACHES.

HEADACHES are more common among women than men, and those which are peculiar to the female sex are quite numerous. They are, to a great extent, associated with her physiological destiny and duties as maid, wife, and matron. They add to her sufferings in most of the diseases which we have considered. The amount of misery they occasion is much underrated. They are too frequently classed among the minor evils of life, and looked upon as unavoidable trials to be patiently borne. It is their cruel influence which is active in folding the furrows and ruling the wrinkles on the faces of many suffering women. How often, also, upon the smooth, fair brow of the young girl may be noted that worn look of unrest which tells, to the experienced observer, of a headache. In many

of these cases a simple remedy, properly employed, will afford effectual and lasting relief. May we not, therefore, hope to do some good by recording here, in plain though brief language, the principal varieties of headache, the symptoms by which they may be recognized, the causes to which they are due, the preventive measures which may avert them, and the treatment which may alleviate or cure them?

A headache is not always an unmixed evil. It is often, especially during pregnancy and nursing, a caution signal—a warning sign, kindly made by nature, to call attention to a threatening disease, while it is yet time to prevent its establishment. Headaches also occur during the course of many general diseases, such as fevers. But besides these forms of headaches, which are symptoms of disease, there are other kinds in which the pain in the head is the most prominent, or the only trouble. Among these we will first mention

Sick-Headache.

This compound name appropriately expresses the two sensations—constant sickness at the stomach, and pain in the head—experienced during the attack. Commencing in childhood or youth, it often clings persistently to the unhappy patient throughout life. "Everything has changed with me," remarked one who had so suffered for twenty years, "except my headaches." Such sufferers, wearied with their ineffectual efforts to relieve themselves of their heavy burden, abandon all hopes of freeing themselves, and find their only remedy in patience. Such apathy cannot but be regretted, for, in many of these cases, the cause may be finally discovered, or an effectual remedy at last secured.

A sick-headache generally commences in the morning on waking from a deep sleep, especially in hot weather, or after sleeping in a close room, or if some irregularity of diet has been committed on the previous day. The irritation caused by food which

disagrees, is probably produced after the food has passed the stomach, and during its presence in the intestines. The time usually taken for a meal to pass through the stomach is from two to five hours; whereas, after leaving that organ, the food, which is reduced to the consistence of gruel, has to traverse about twenty-six feet of intestine. Hence the ill effects are often manifest only the day after an indiscreet indulgence in the pleasures of the table.

There is, at first, a dull and distressingly oppressive sensation in the head, merging into a severe and heavy (not throbbing) pain in the temples, usually more severe on the left side, and accompanied by a tenderness and sense of fulness in the corresponding eye, or extending across the forehead. Sometimes it fixes itself over the inner corner of the eyebrow, and in these cases light is especially oppressive. There is a clammy and unpleasant taste in the mouth, the breath is offensive, and the tongue covered with a yellowish-white fur. The sufferer usually desires to be alone, and in

the dark. The body is chill, and a sensation is often experienced as of a stream of water trickling down the back. The hands and feet are cold and moist, and the pulse feeble.

Accompanying these symptoms, there is a depressing sense of sickness at the stomach, with entire loss of appetite. The nausea is increased by the erect posture, and by moving about. There is usually great flatulence, for the irritating, ill-digested food actually undergoes a species of decomposition. Then—after several ineffectual attacks of retching, which terminate only with shuddering at the nauseous taste in the mouth—vomiting at length ensues. The stomach is relieved of whatever food it contains, if any has been taken during the day, in an undigested state; but more frequently only a thin glairy fluid of an acrid, sour taste is ejected. During the concussion of the system, produced by vomiting, there is considerable pressure exercised on the bowels by the muscles of the abdomen. The badly digested mass is

dislodged from the situation where it is producing irritation, and passes on its appointed course. The pain in the head, though increased during the act of vomiting, subsequently becomes relieved. There remain merely a squeamishness of the stomach and a general uneasiness and languor which induce a desire for repose. After a short sleep, the patient may awake perfectly well, or only a little debilitated, according to the previous condition of the general health.

In other cases the vomiting continues, and adds still further to the distress. The acid fluid at first ejected gives place to bile —yellow, nauseous, and bitter; and with the intense depression that always accompanies its presence in the stomach. This urgent sickness, if allowed to continue unchecked, may go on for two or three hours, until, worn out with vehement exertion, the sufferer falls asleep and wakes to comparative ease.

Sometimes, however, the vomiting does not supervene at all. The pain in the head

then usually becomes worse as the day advances, until lost in sleep at night. It may even continue throughout a second day, or on into a third.

The *causes* of sick-headache are found principally in the digestive organs. Sedentary habits, especially when combined with anxiety of mind and insufficient exercise, seldom fail to weaken the powers of digestion. These habits are often associated with irregularity in diet; too long an interval being allowed to elapse between the meals, or an excessive quantity of food being taken to subdue the sensation of hunger. The golden rule, that "you should eat when you are hungry, but not as long as you are hungry," is neglected.

It is seldom that an attack of sick-headache cannot be traced to some previous excess at the table. Some persons can never take particular articles of diet without suffering from a headache.

The *treatment* of sick-headache requires, on the part of the sufferer, a careful self-examination into the peculiarities of her

individual case. The removal of the immediate cause of the pain should not be so much an object as the permanent relief of the unhealthy condition of the stomach. Without the accomplishment of this, by steady perseverance and self-denial, no power can avert the recurrence of the trouble on any irregularity of diet.

When the headache comes on very shortly after a meal, especially where it can be traced directly to one or more indigestible articles of food, copious draughts of warm water or warm chamomile tea, to induce vomiting, will usually remove the offending food and the pain together. Any continuance of the headache may be relieved by an hour's quiet, and the application to the forehead of a thin cloth damped with cologne water, with essence of verbena, or with simple spirit and water. As a rule, the use of emetic drugs, such as ipecacuanha, should be avoided. If often repeated, they lower the tone of the stomach and render another attack more probable.

Where the pain ensues some hours after

taking food, a warm draught, with rhubarb and magnesia, is generally beneficial.

Take of—

Powdered rhubarb,
Carbonate of magnesia, each 40 grains,
Syrup of ginger . . . . . ½ fluidounce,
Peppermint water . . . . 1½ fluidounce.

Mix.

Add a tablespoonful to half a wineglassful of warm water, and take as one draught.

The use of stimulants, so frequently indulged in in cases of sick-headache, proves eventually injurious. This is especially the case where the headache is of habitual occurrence. The momentary relief they afford is followed by an increase in the intensity and frequency of future attacks.

The headache that comes on some hours after a meal, may often be warded off by taking a few grains of rhubarb and aloes, as a dinner pill. For this purpose the following is an excellent combination:—

Take of—

Powdered rhubarb . . . 18 grains,
Powdered capsicum . . . 5 grains,
Dried carbonate of soda . 6 grains,
Powdered aloes,
Castile soap, . . each 10 grains.

Mix.

Divide into twelve pills.

One to be taken an hour before each meal.

But it must be remembered that so long as the use of a dinner pill is necessary, there is an unhealthy state of the stomach, to which the dose only serves as a temporary palliative, and which requires other and further treatment to do away with the need of coaxing it to good behavior in this manner.

The first and most essential requisite towards permanent relief of sick-headache is a determination on the part of the patient to strictly regulate the diet; to carefully attend to the action of the bowels; and to take more exercise and air. The effects of various articles of food should be noticed, and whatever manifestly disagrees forthwith shunned. More than six hours

(exclusive of sleep) ought never to pass without the taking of food. The best diet is the plainest, and those subject to dyspepsia should deny themselves rich soups and broths, and avoid over-diluting the contents of the stomach by fluids of any description. The *quantity of food* taken at a meal should be especially restricted; for persons of delicate digestions will often complain of the ill effects of some particular article of diet, when their sufferings are, in reality, owing to the quantity of all, rather than to the disagreement of any one part. The how much, must be determined by every woman for herself. She is happy who is able to do this with accuracy, and to carry out the dictates of her judgment.

Where, on the other hand, the appetite is deficient, a little ice, or a draught of ice-cold water, taken half an hour before dinner, usually proves very serviceable. Its efficacy depends on the reaction that follows the first effect of the cold on the stomach. In this way, the keen appetite often excited by taking a few raw oysters is probably produced.

The strict observance of a low or meagre diet is seldom advisable and often hurtful; though great discrimination is required in the food that is chosen. The following plan of daily diet, if rigidly continued for a while, very seldom fails to prove beneficial, where the precautions in reference to medicines and exercise are, at the same time, observed:—

For breakfast, a cup of coffee with a biscuit or dry toast, a fresh egg lightly boiled, or a small portion of cold fowl or game. For dinner, a tender beefsteak dressed on a gridiron, care being taken that each mouthful be properly masticated; no vegetables, or only a well-cooked potato; a light pudding, with brown bread. Mutton or poultry, with a little fish (plainly boiled), may be substituted on alternate days. For supper, some dry toast and a little sago, or carrageen-moss jelly, may be taken.

It is important to avoid heavy and late suppers. The poet well says:—

"But would you sweetly waste the blank of night
In deep oblivion; or, on fancy's wings
Visit the paradise of happy dreams,
And waken cheerful as the lively morn;
Oppress not nature sinking down to rest
With feasts too late, too solid, or too full."

The use of the flesh-brush, or a coarse hair-glove, over the surface of the body, especially in the region of the stomach, is often very beneficial. Instead of either, a salt-towel may be employed. This is made by immersing a towel in a basin of salt water, in the evening, and throwing it over the back of a chair to dry during the night. In the morning, take one end in each hand and draw the roughened towel briskly to and fro over the stomach, until the skin is in a glow. Repeat this friction every morning. Exercise, either walking or, if possible, on horseback, should never be omitted a single day that the weather will permit it; before dinner being the best time to choose. The regular action of the bowels should be carefully attended to, and when the diet and exercise prove insufficient, an occasional laxative should be taken. In cases of constipation, the following pill is strongly recommended by Prof. Van Buren, of New York, who terms it the "Pil Salutis"—the "Pill of Health."

Take of—

Extract of aloes . . .	½ drachm,
Extract of nux vomica .	6 grains,
Extract of hyoscyamus	20 grains,
Powdered ipecacuanha .	1 grain.

Mix.

Divide into twenty pills.

Take one each night at bedtime.

Change of air and scene is always attended with advantage in cases of sick-headache.

Nervous Headache.

The ordinary nervous headache is more frequent in women, and is especially common in the female sex between the ages of fifteen and forty. This is owing to the fact that the female nervous susceptibility is greater than the male. It is of greater frequency in large towns and cities than in country neighborhoods, which can only be attributed to the difference in habits, and in the air that is breathed. It is also of greater frequency among women of the upper and middle classes, which may

doubtless be attributed to the mode of education and of life to which they are subject. The body is too generally cramped, in defiance of its natural tendencies, to produce that artificial shape known as a "good figure." The mind is trained, in despite of its natural bias, to acquire a knowledge of what are considered accomplishments, whether there be any natural aptitude or not for such studies. The feelings are more excited than the understanding. Exercise of the body is restricted. The bright sunshine and the bracing breeze are shunned, for they produce freckles and roughen the cheek—signs, it is true, of the Beauty of Health, but that unfortunately is not our standard of beauty.

This particular form of headache—the nervous—is most apt to occur in women possessing high susceptibility, both mental and physical; whose spirits are variable, easily elevated, and easily depressed; whose tempers are fickle and readily excited.

Nervous headaches are usually sudden,

both in attack and termination. The pain is ordinarily acute and darting, aggravated by sound or light, with a sensation as if the temples were being pressed together. Some women become peevish and irritable during the attack; others are dull, languid, and almost constantly yawning. There is sometimes a sense of sinking, with a dread of falling, great despondency, and a restlessness which renders the patient incapable of continuous attention, and of physical or mental exertion. The pulse is small and feeble, its frequency varying with the least excitement; whilst palpitation of the heart ensues on the slightest exertion. Coldness of the hands and feet is constantly complained of. There is often a short, dry, jerking cough, which occurs on the least excitement, or sudden change of temperature. The bowels are usually costive; the sight is dim; and, where the sufferer has long been subject to these headaches, the eyes appear sunken and the countenance wan and careworn. The headache comes on most frequently in the morning, lasts

throughout the day, and abates in the evening.

It not unfrequently happens that any excitement or shock, which suddenly arouses the system, relieves the nervous pain. Hence, in olden times, it is said a headache of this kind was cured by setting the patient's head on fire. In our day most patients would object to such a heroic remedy. In some instances, women are free from nervous headache during every pregnancy, though constantly suffering from it at other times.

The nervous headache, which is of such frequent occurrence in girls and women of hysterical tendencies, although presenting certain of the foregoing symptoms, according to its greater or less severity and duration, has, in addition, especially well-marked peculiarities of its own. It usually comes on suddenly, its commencement being accompanied by cramp-like pain in the abdomen, mounting thus to the throat (where the sensation resembles that of a

ball lodged there), and finally reaching the head.

With the abdominal pain, in these cases, there is usually excessive flatulence, amounting to a sense of distension, this being due to impaired or deficient powers of digestion. And flatulence, whenever it occurs, is injurious. It distends the coats of the stomach and bowels, enfeebling their energy, whilst it diminishes their power of action. If the flatulence be followed by eructation, immediate though only temporary relief is experienced. This often forms the excuse for the use, and still more frequent abuse, of that lady-like form of dram-drinking which consists in dissolving in the mouth a lump of sugar moistened with a spirituous stimulant, as cologne water; a medical stimulant, as sal volatile; or a combination of both, as spirits of lavender. The purpose with which these are taken (to communicate an unnatural exaltation to the spirits, and to dispel the uneasy sensations in the stomach) is precisely that which influences the drunkard

to swallow his stimulant—whiskey or brandy.

"Observe what ills to nervous females flow,
When the heart flutters and the pulse is low,
If once induced these cordial cups to try,
All feel the ease, and few the danger fly;
For while obtain'd, of drams they have all the force,
And when denied, then drams are the resource."

The result is the same whichever be taken—miserable subsequent depression, and aggravation of all the causes of suffering.

The pain in the head, where it is essentially dependent on that eccentricity of the nerves known as "*hysteria*," usually presents certain characters. It is confined to one small space, or to a single spot, frequently over one eyebrow. It is often likened to the sensation of a wedge or nail driven into the skull, or pressing on the brain, accompanied at times by darting pains.

The headaches that accompany excessive debility, from any exhausting drain on the system, as over-nursing, prolonged diarrhœa,

etc., are nearly allied to nervous headaches, and are, also, most frequent in the female sex. The cheeks are blanched, and the lips pale; there is a dark halo around the sunken eye, the sight is impaired, the legs swell if allowed to hang down, and the whole frame is greatly wasted and debilitated. The pain is generally referred to the top of the head, and is frequently described as resembling a "ticking" or the beating of a small hammer on the skull.

The direct *causes* that produce these various forms of nervous headache are very numerous. They need only be very trifling when the predisposition is strong; a loud noise, a vivid light, or a disagreeable smell, will suffice. Impurity of the air breathed, whether resulting from freshly-painted rooms, from open drains, from the presence of flowers in the sleeping apartment, or the collection of a large number of persons in a close room, or an ill-ventilated theatre, especially where gas is burning, are common causes of nervous headaches. It need hardly be remarked that the influence of

mental suffering is very great. Grief for the loss of a beloved object; disappointed hope; mental strain beyond the powers of the intellect; all these give rise to headaches of the most varied characters; the true cause being often a secret locked in the sufferer's breast.

Hysterical headaches are generally produced in persons of hysterical habit, by some unfitting excitement or injudicious exposure. The attack may often be traced to over-exertion, as in dancing, followed by exposure to cold.

Those pitiable headaches, the predisposition to which is produced by any long-continued drain on the system, are frequently brought on by the influence of any of the exciting causes that give rise to other nervous headache. In these cases, it is not that the nervous system is unduly excited or irritated, but that the rest of the body no longer retains a proportionate force or development. With returning strength, as the balance between the nervous system and the rest of the body becomes re-estab-

lished, the excessive excitability diminishes, and the nervous headache ceases.

The Treatment of Nervous Headaches.—The first object is to subdue the intensity of the pain. This, however, is really a minor consideration. The principal aim should be to afford permanent relief by directing the attention unswervingly to the cause from which the trouble arises. When the cause is mechanical or organic, as when due to a decayed tooth, etc., the aid of the dentist or surgeon is required.

The combination of hyoscyamus with camphor, generally affords great relief to the intensity of the pain in common nervous headache:—

Take of—
Extract of hyoscyamus,
Powdered camphor, . each 20 grains.
Mix.
Divide into sixteen pills.
One or two to be taken when the pain is very severe.

The following is also a useful preparation for the same purpose:—

Take of—

Tincture of hyoscyamus,
Compound tincture of cardamoms, ... each ½ fluidounce,
Chloroform . . . . . 1 fluidrachm,
Oil of lemon . . . . . 15 drops,
Powdered tragacanth . . 1 drachm,
Camphor water . . . . 7 fluidounces.

Mix.

Dose, a tablespoonful to relieve the pain.

Coffee, made quite strong, with the addition of the juice of a lemon to a cup, sweetened to the taste, often affords marked relief to the pain.

Dr. William A. Hammond, of New York, strongly recommends oxide of zinc as of great value in this affection:—

Take of—

Oxide of zinc . . . . 40 grains,
Confection of roses . a sufficient quantity to make a mass.

Divide into twenty pills.

One is to be taken, three times a day, after each meal.

When the stomach is much irritated, the following pills may be taken for a while, instead of oxide of zinc:—

Take of—

Subcarbonate of bismuth . 40 grains,

Confection of roses . a sufficient quantity to make a mass.

Divide into twenty pills.

One three times a day, after meals.

A combination of bromide of potassium and bromide of ammonium is very serviceable when the nervous system is irritated, but of no benefit when there is exhaustion of the nerve force:—

Take of—

Bromide of potassium . 3 drachms,

Bromide of ammonium . 2 drachms,

Cinnamon water . . . 4 fluidounces.

Mix.

Dose, a dessertspoonful (two teaspoonfuls) three times a day.

When there is much flatulence (wind in the bowels), the following is of advantage:—

Take of—

Aromatic powder . . . 60 grains,

Carbonate of soda . . . 30 grains,

Tincture of cinnamon . $\frac{1}{2}$ fluidounce,

Peppermint water . . . 2 fluidounces,

Syrup of ginger . . . $1\frac{1}{2}$ fluidounce.

Mix.

Dose, a tablespoonful.

In the treatment of nervous headache there are three main points which should be remembered: *i. e.*, that diet is of the chief importance in the simple nervous headache; exercise in hysterical cases; medicine in those headaches which depend on extreme exhaustion.

The *diet* should be proportioned to the amount of exercise taken. The meals should be regular, everything but the plainest dishes being avoided. All rich pastry, fat meats, and condiments must be avoided. Exposure to cold and damp, or the risk of wet feet, should be guarded against, especially during or near the monthly periods. The hours should be regular, and though cheerful society or amusements, that divert without exciting the mind, are to be commended, yet even these must be pursued with moderation, lest "the toiling pleasure sicken into pain." All enervating habits are to be broken through. Sea-bathing is very beneficial, or cold sponging of the surface of the body; or the shower bath, when the progress

towards recovery is somewhat advanced, for it can seldom be borne before. This free use of cold water is especially advantageous in hysterical cases. It acts as a tonic; and, if combined with regular and brisk exercise and careful diet, will often suffice to move the hysteric tendency, without the use of medicine, for which the natural mineral waters may often be substituted with advantage.

In cases of headache clearly traceable to debility or exhaustion, the first thing is, of course, to remove the drain on the system that has so enfeebled the frame. The diet should be in the highest degree nutritious. The temperature of the body should be carefully maintained by judicious clothing. Any undue exertion or excitement must be avoided. Removal into the country, especially to the native air, or to a warm spot at the sea-side, is often almost magical in its effects. The tonics we mentioned, in speaking of "Poverty of the Blood," are all beneficial. Care must be taken not to take too large a dose of any tonic at first,

for the digestion in nervous persons being delicate, it may produce a sensation of tightness across the forehead, a tendency to costiveness, and a sense of fulness and irritation of the whole body. Commence, therefore, with smaller doses, and milder tonics, and increase the strength as the system becomes better able to bear their action.

Parting Words.

At length we draw near to the end of our work. The Counsels which we had to impart to the other sex are now concluded. They are drawn from a wide experience of suffering and sickness; they are culled from the lengthy works of professional teachers; they have been carefully phrased in such terms that no one can misunderstand them. It now remains for them to be conned and heeded.

We have addressed the delicate girl at the hour when her constitution is forming, and when she is laying up for herself either that strength which is to support her under the trials of maturity, and the assaults of years, or else that frailty which is to render her a care to those around her, and a trouble to herself.

We have admonished her who has assumed the fillet of the matron, and solemnly vowed to fulfil the responsible duties of the wife and mother. She now knows the risks to which she is exposed, and with them the precautions which will diminish these risks to the utmost. She who, having passed the period of childlessness, has upon her mind the welfare of other and more tender lives, has learned in what way she can insure them prosperous and happy years to the extent of her human ability. The changes which mark the era of the departure of the maternal power have been chronicled, and their gravity estimated.

Finally, turning aside from these events, which take place, as it were, in the natural and normal life of every female, we have laid particular stress on the peculiar diseases to which woman is subject. We have described them with such minuteness that no one can fail to recognize them; we have pointed out the deleterious influence they often exert on the well-being of the whole frame; we have dilated on the ease

with which they frequently may be prevented; and lastly, we have called attention to the methods by which they can be relieved and, in cases, cured by simple means within the reach of every one.

Such has been the ground over which the reader has passed in our company. That the information conveyed has been conscientiously brought forward, we feel; that it will be carefully applied, we hope. In such case, the sad spectacles of women, ignorant and unfitted for their destined duties, and seeking to shirk them by unlawful means, will diminish. And we may look forward to the time when, once again, like the mother of the Gracchi, the wife and mother of our own country will proudly bring forward her many sons and daughters, as the most highly prized jewels in her cabinet of treasures, and the antique virtues will return to our hearts and homes.

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